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The Pennsylvania Defoliation Application Pilot Test

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ABSTRACT

Satellite imagery for the State of Pennsylvania was digitally mosaicked to provide the seed data base for monitoring defoliation of hardwood trees by the gypsy moth. Two separate mosaics for the state were prepared, one before defoliation and one after defoliation, to determine the extent, direction, and impact of gypsy moth activity in the state. The digital mosaic technology used to construct the data base was transferred to Pennsylvania State University to permit periodic updates to the data base and to assist in planning and abatement activities. Participating agencies or institutions included Goddard Space Flight Center and the Pennsylvania State University Office for Remote Sensing of Earth Resources.

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1. OVERVIEW

This report documents the efforts expended at JPL in providing image processing support to the Pennsylvania Defoliation Applications Pilot Test (APT) sponsored by NASA and Goddard Space Flight Center. The objectives of the JPL task were as follows:

A.1) Phase I Testing - Geometrically correct all four bands of two 1979 Landsat scenes of the Harrisburg, PA. area to a Universal Transverse Mercator (UTM) map projection; digitally mosaic all four bands.

A.2) Register classified imagery derived from the 1979 Landsat data to the four-band Landsat mosaic created in A.1 above.

A.3) Register two alternate-date Landsat scenes to the 1979 map-projected Landsat scenes to test a change-detection procedure.

B.1) Phase II Implementation - Geometrically correct all four bands of twelve 1979 time frame Landsat scenes of the entire state of Pennsylvania to a UTM projection; digitally mosaic all four bands.

B.2) Register multispectrally classified imagery derived from the 1979 time frame imagery for the entire state to the four-band Landsat mosaic created in B.1 above.

B.3) Register twelve 1981 Landsat scenes for the entire state to the 1979 digital mosaic data base.

C.1) Phase III Reporting - Compile technical report on the software and procedures used in providing assistance to the APT.

C.2) Transfer and install all relevant software needed for updating the mosaic data bases to Pennsylvania State University for operational use.

Plate I summarizes the task overview.

Pennsylvania Mosaic Task Overview

Phase I
Test and Evaluation

1. Two-frame test mosaic
2. Classify to forest/nonforest
3. Two-frame test mosaic; different date; same area
4. Register two-date/two-frame mosaics to detect change in forested areas

Phase II
Implementation

1. Ten-frame mosaic of entire state; 1979 time frame data; two UTM zones
2. Classify to forest/nonforest
3. Ten-frame mosaic of entire state; 1981 time frame data; two UTM zones
4. Register two-date/ten-frame mosaics to detect change in forested areas

Phase III
Reporting

1. Transfer capability and software to Pennsylvania State University
2. Document procedures used in the task

Plate I

2. INTRODUCTION

Since its introduction from Europe into Massachusetts in the late 1860s, the gypsy moth Lymantria dispar (L.), has repeatedly defoliated hundreds of thousands of hectares of forest. The mature gypsy moth caterpillar is about 5 to 7 cm (2 to 3 in.) in length, and as many as 30,000 of these caterpillars can infest a single tree. Each caterpillar can consume up to ten small leaves a day [1]. Over the past ten years, the State of Pennsylvania has attributed the loss of $32 million dollars worth of timber resources to this pest. The insect does not kill the tree immediately, but after prolonged infestations over several years the tree is destroyed. While the natural spread of the gypsy moth is slow, its spread can accelerate because of its ability to hitchhike with people traveling through infested areas.

In order to plan appropriate pest management activities, resource managers must continually monitor the movements and damage caused by this insect. Over large geographic areas, conventional methods of surveillance such as field site visits and large-scale aerial photography are expensive and time consuming. Alternative methods of assessment must be developed that are inexpensive, timely, and mesh well with current practices.

Developing new assessment methods for gypsy moth infestations is the goal of the Pennsylvania Defoliation Applications Pilot Test (APT), a joint study by Goddard Space Flight Center/NASA and Pennsylvania State University. These new methods being developed are to be transferred to the Pennsylvania Division of Forest Pest Management, Bureau of Forestry, for implementation to operational use.

2.1 Basic Procedure

The basic procedure is to utilize multidate Landsat imagery to monitor the infestations [2]. An image is acquired of an area prior to infestation, and it is classified, using computer aided analysis techniques, to identify the extent of forest cover versus nonforest cover. After insect damage, a second

image of the same area is obtained and it is digitally overlaid onto the forest cover map derived from the initial image. Forested areas exhibiting defoliation can then be identified and tabulated. Hectare counts and estimates can be generated and abatement procedures or strategies developed.

While Landsat is a convenient and relatively inexpensive source of data, certain properties associated with the data present problems. The framing convention of the Landsat sensor does not lend itself well to imaging entire states in a single scene. To increase the utility of the data, the Landsat frames must be geometrically corrected to a standard map projection and then mosaicked.

3. IMAGE PROCESSING ENVIRONMENT

All data processing performed at JPL utilized the Image Processing Laboratory (IPL). The current IPL configuration includes an IBM 370/158 mainframe computer with 8 megabytes of memory, eight tape drives [(six 9-track, 314- and 629-bit/cm (800- and 1600-bit/in.); two 7-track, 88-, 218-, and 314-bit/cm (225-, 550-, and 800-bit/in.)], and 3.8 gigabytes of on-line disk storage. The disk storage consists of 8 CDC model 3350 high-speed, permanently mounted disks, and two CDC 3330-11 mountable disks. An interactive environment is supported by TSO, LIBEXEC and image display devices. Image displays include a Ramtek 6400 display system that accommodates 6-bit black and white imagery of any dimension within a 640 x 512 element window. A COMTAL 8000 display unit is used to display 8-bit black and white imagery up to 1024 x 1024 elements. Color display is accomplished with two separate systems. A COMTAL 8003 System provides 512 x 512 element resolution for 8-bit three color (RGB) images and a DeAnza provides expanded 512 x 512 element display capability. A laser film recorder and DICOMED D-64 devices are used for film playback.

The IPL also maintains a complete library of over 300 special purpose image processing applications programs. The system in use is the Video Image Communication and Retrieval (VICAR) and the Image Based Information System (IBIS) developed at JPL [3,4].

4. PHASE I: TEST AND EVALUATION OF PROCEDURES

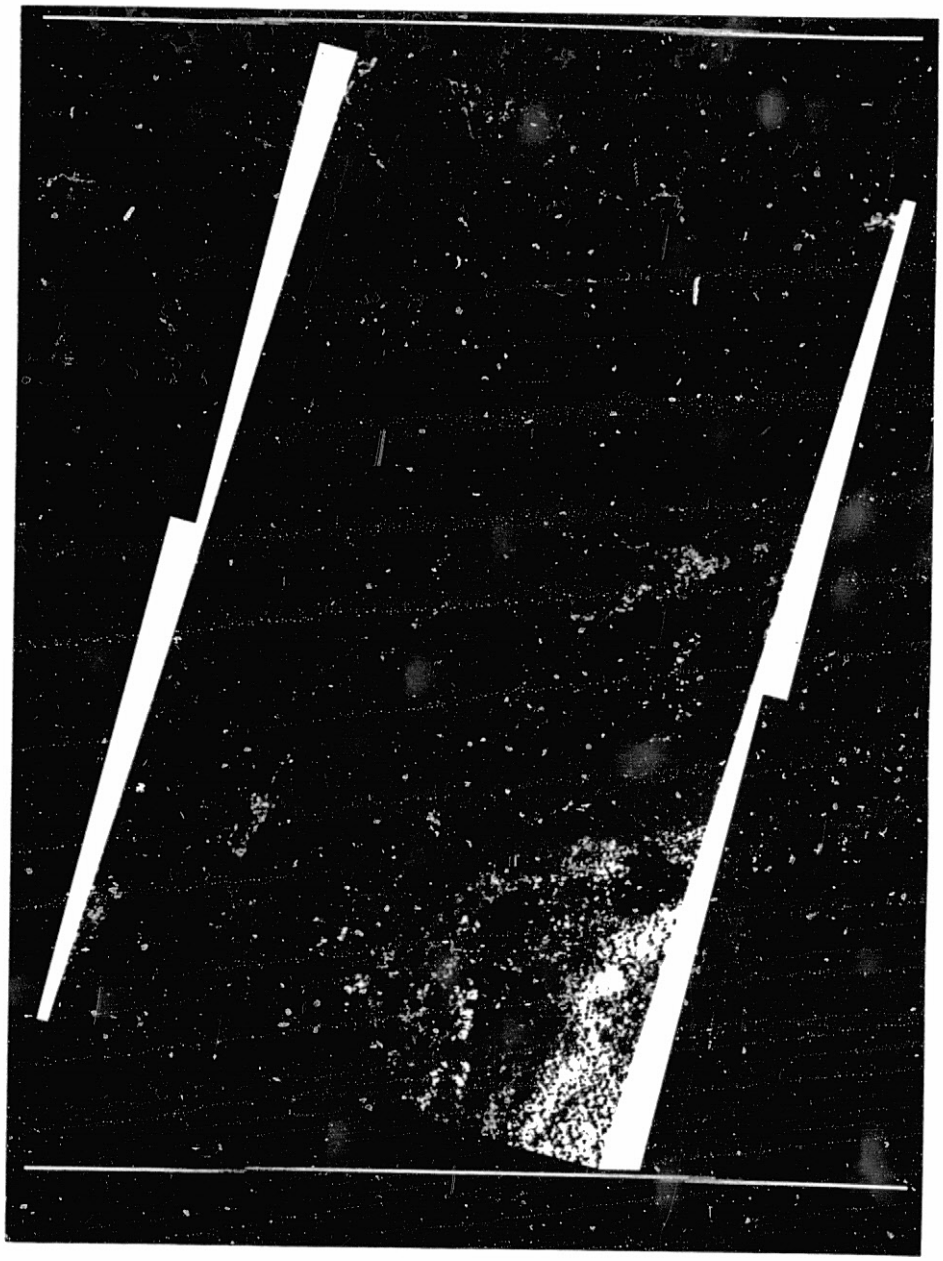
Prototyping a mosaicking procedure for a particular application is a difficult and time consuming task. All scenes used must be logged and inspected, data sets and tapes allocated, mapping grids defined, and software procedures developed, exercised, and verified. Phase I of the project was designed to meet two needs: Firstly, a test case was performed to illustrate the capability of the technology for digital mosaics. In the process of demonstrating the capability, the technical procedures needed to accomplish the task were refined, streamlined and made error-free. Secondly, interim products documenting the process were produced that showed capability of procedures developed, and provided initial data for GSFC to begin procedure building for processing at GSFC. The procedures developed for the mosaicking process are described in detail under Phase II.

Phase I mosaic utilized two Landsat frames in order to test and evaluate the technology. A two-frame mosaic was compiled from 1979 data. The frames were acquired on the same day and were in a common path [(i.e., top-to-bottom relationship), see Table 1.] Figure 1 depicts the resultant mosaic. In the second part of the testing phase, Landsat data of an alternate date (1978) was mosaicked (see Table 1) and registered to the initial mosaic data base. A multispectral classification of the initial 1979 image data was performed at GSFC and resulted in a forest cover vs. nonforest cover confidence map which was used as a stratification in a later classification to display gypsy moth induced defoliation. The confidence map was then registered to the initial and subsequent mosaic. It was found that while some errors in first date to second date registration occurred, it was felt that with a sufficiently dense network of tiepoints which control the geometric registration, a suitable tolerance in registration could be achieved.

TABLE 1

PHASE I LANDSAT SCENES

		Landsat World Reference System	Area
1979 Mosaic Base	1	30478-15123 Path 17 Row 31	Williamsport
	2	30478-15130 Path 17 Row 32	Harrisburg
		Both images acquired 26 June 1979	
1978 Mosaic Base	1	30208-15135 Path 17 Row 31	Williamsport
	2	30208-15141 Path 17 Row 32	Harrisburg
		Both images acquired 29 Sept. 1978	



Test and Evaluation Phase Product Output

A two-frame Landsat mosaic of data gathered on June 26, 1979, and from a common path was constructed. This image is 3700 lines by 2900 samples.

Figure 1

5. PHASE II: IMPLEMENTATION: PREPARATION OF THE DIGITAL MOSAICS

The Landsat data tapes used for Phase II, a mosaic prior to defoliation, were delivered to JPL by Goddard Space Flight Center. Goddard ordered the scenes from EROS Data Center in order to proceed in a parallel effort with other aspects of the project. Table 2 depicts the Landsat frames used in this mosaic, and Figure 2 shows the individual footprint of each scene for the state.

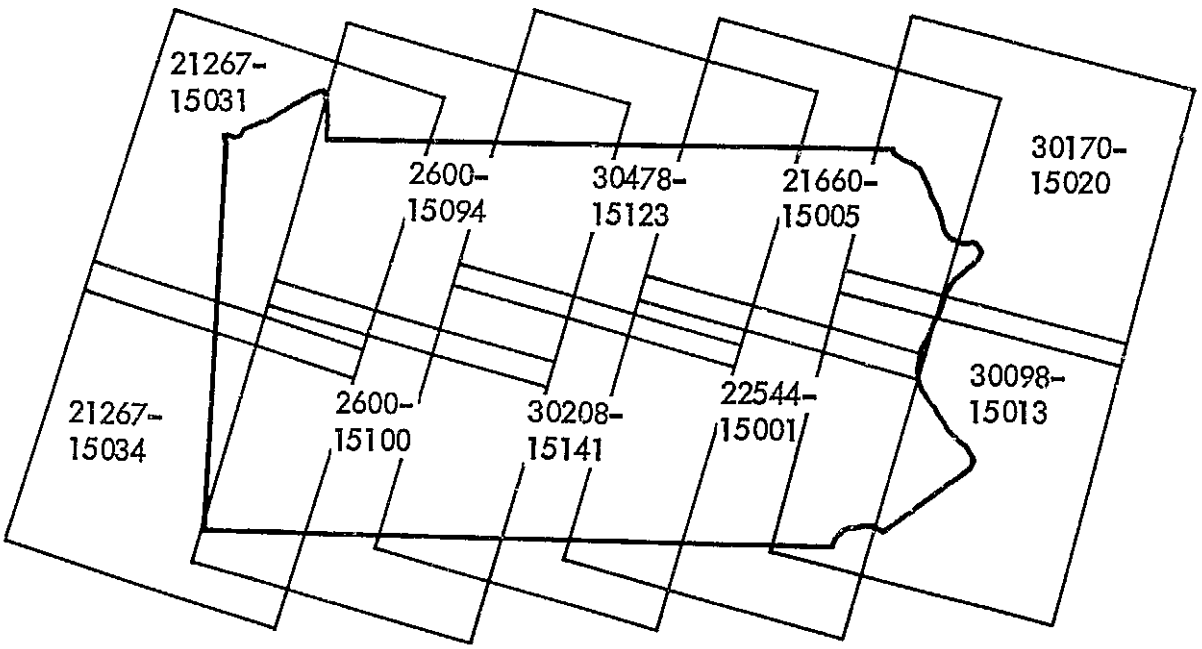
TABLE 2

PHASE II LANDSAT SCENES

PATH	ROW	SCENE IDENTIFICATION	LOCATION NAME	DATE
19	31	21267-15031	Titusville	July 12, 1978
19	32	21267-15034	Steubenville	July 12, 1978
18	31	2600-15094	Warren	September 13, 1976
18	32	2600-15100	Pittsburgh	September 13, 1976
17	31	30478-15123	Williamsport	June 26, 1979
17	32	30208-15141	Harrisburg	September 29, 1978
16	31	21660-15005	Scranton	August 9, 1979
16	32	2544-15001	Lebanon	July 19, 1976
15	31	30170-15020	Poughkeepsie	August 22, 1978
15	32	30098-15013	Trenton	June 11, 1978

5.1 Logging the Initial Scenes

The Landsat data were initially logged to be compatible with the VICAR format and system requirements at IPL. The logging consists of a series of separate steps depending upon the type of data ordered. Since February 1979, imagery processed by EROS Data Center is in band sequential format with major geometric corrections. If the data are processed prior to that date, the data



Landsat Frames Footprints
Depicted here are the individual footprints of each scene used for the mosaic Phase II.

Figure 2

are band interleaved by pixel pairs with no geometric corrections performed. Typical of almost all applications involving this type of imagery, it is necessary to select acquisition dates spanning over a long period of time to obtain the most cloud-free coverage possible. Hence, it was necessary to use both band-sequential and band-interleaved formats as basic data input for the task.

Imagery processed since February 1979 is fairly easy and inexpensive to log because no geometry changes are necessary, at least in the first phases of the mosaicking process. Extraneous engineering files are stripped off and a VICAR label attached to the image files to be used by subsequent VICAR modules. The uncorrected data, band interleaved by pixel pairs, require extended effort and expense to produce a data format suitable for the VICAR mosaicking process. Nominal geometric and radiometric corrections include removal of earth rotation induced skew, panorama effect, and mirror scan velocity profile (MSVP) compensation. The pixel size at this stage of the processing is the instantaneous field of view (IFOV) of 57 and 79 meters.

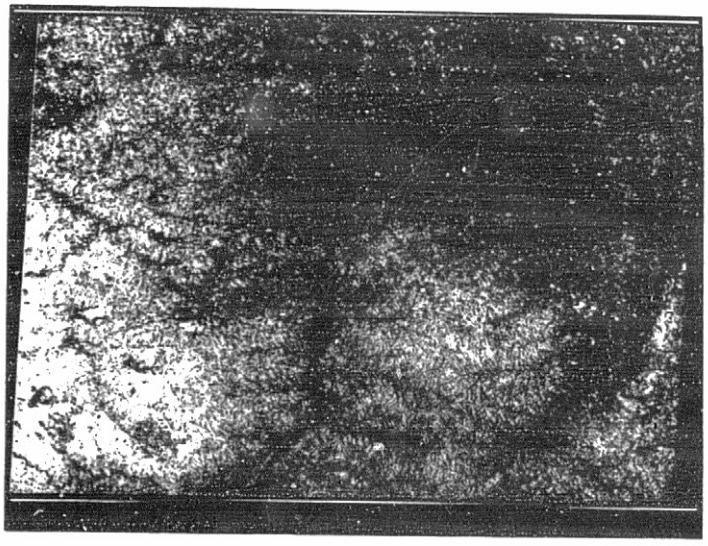
Figures 3 through 12 depict the logged Landsat scenes used for the early date Phase II mosaic.

5.2 Map Base

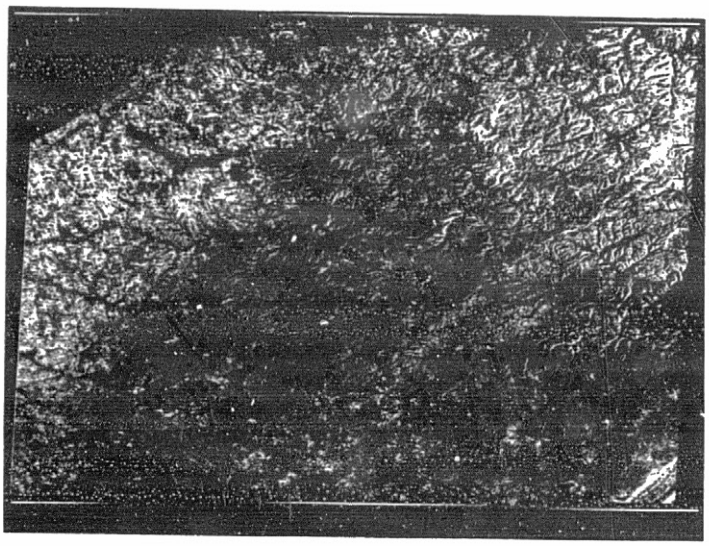
The Universal Transverse Mercator (UTM) Projection was chosen as the mapping base for the mosaic. It was decided to select a pixel size of 57 meters by 57 meters because of the IFOV sampling interval along the Landsat scan line. Selection of a 50-meter pixel size would have allowed the data to be extracted from the UTM grid more conveniently, but would also have increased the amount of data to be processed while not increasing the information content.

The State of Pennsylvania covers about 6 degrees of longitude, large enough to encompass one UTM zone. Unfortunately, the state straddles a UTM zone boundary which bisects the state into western and eastern zones, Zone 17 and Zone 18, respectively. To preserve map projection properties and to provide

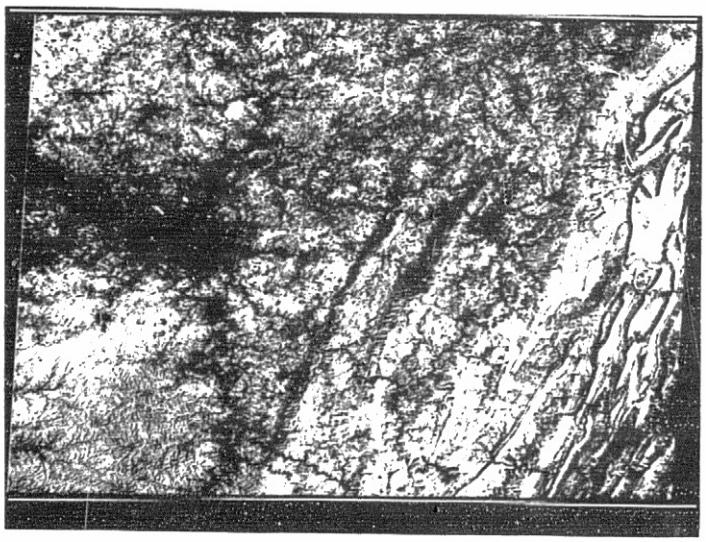
Frame 1 Titusville
21267-15031
Figure 3



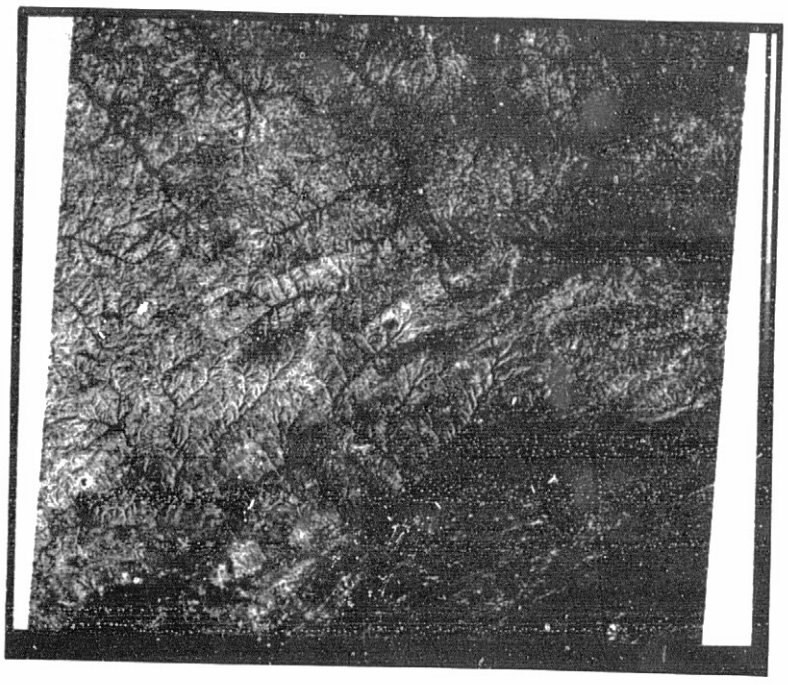
Frame 2 Steubenville
21267-15034
Figure 4



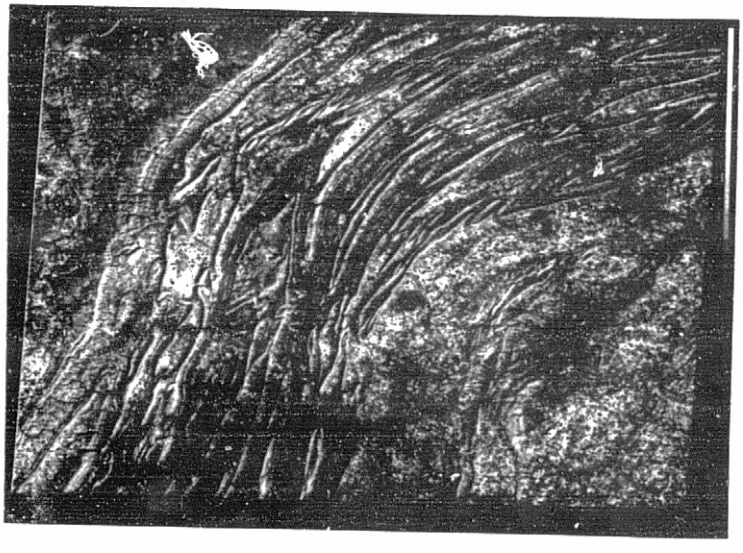
Frame 3 Warren
2600-15094
Figure 5



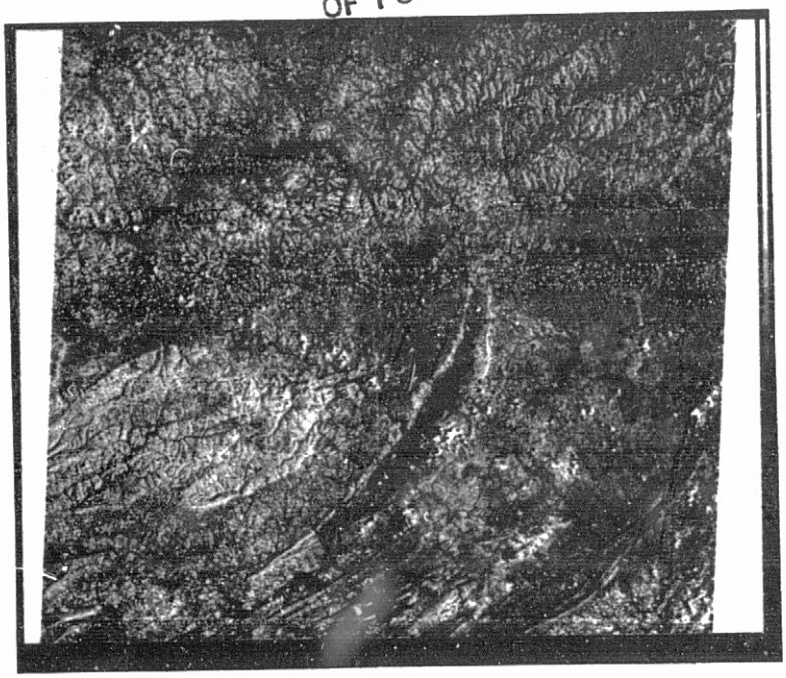
Frame 4 Pittsburg
2600-15100
Figure 6



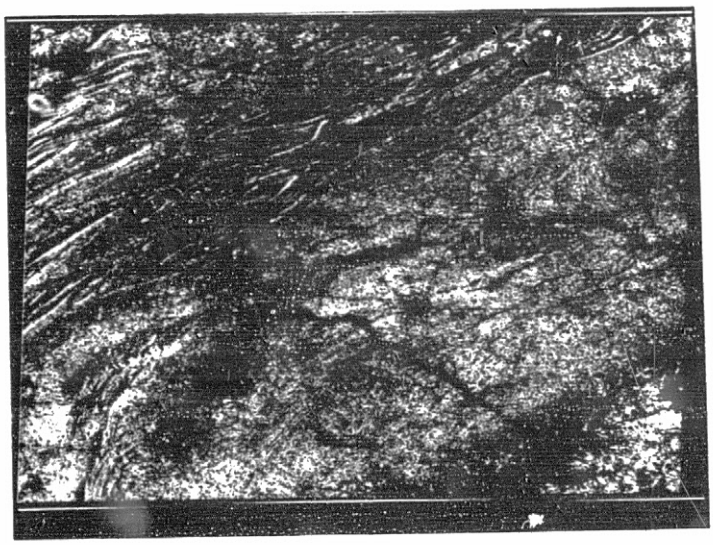
Frame 5 Williamsport
30478-15123
Figure 7



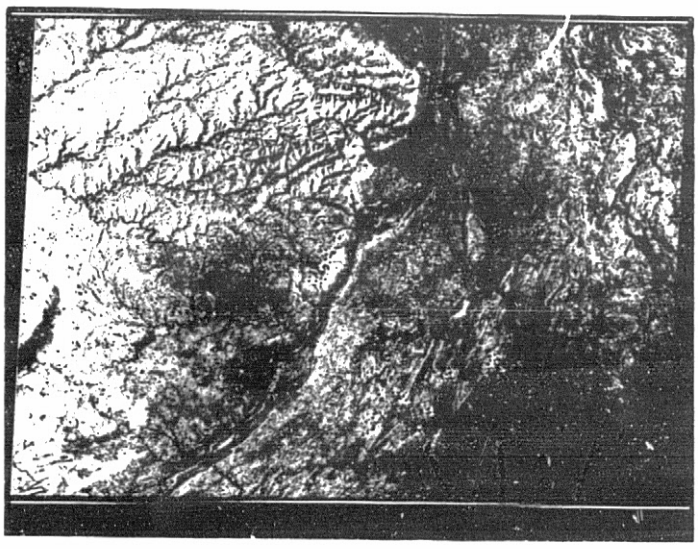
Frame 6 Harrisburg
30208-15141
Figure 8



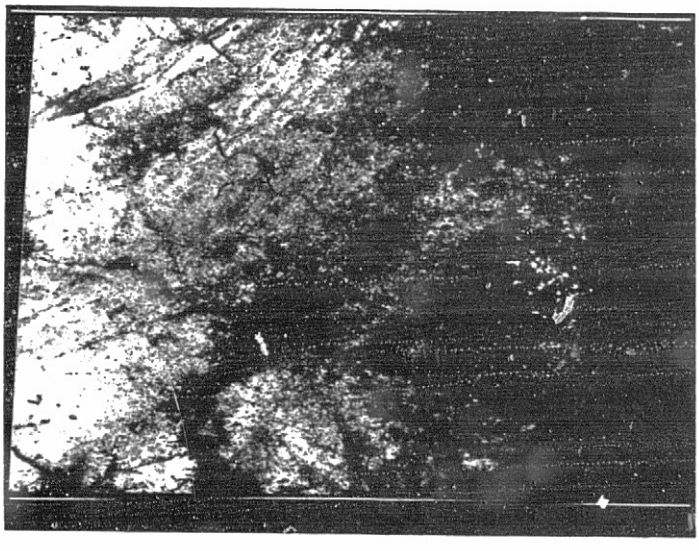
Frame 7 Scranton
21660-15005
Figure 9



Frame 8 Lebanon
2544-15001
Figure 10



Frame 9 Poughkeepsie
30170-15020
Figure 11



Frame 10 Trenton
30098-15013
Figure 12

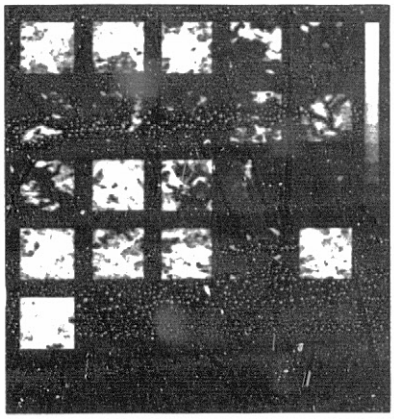
consistency with subsequent data sets to be registered to the Landsat mosaic data base, two separate mosaics were constructed, one for each zone. Coverage of the entire state with Landsat data can be met with ten scenes, but because of the two map projection zones, six scenes were mosaicked for each zone, with the two central scenes contributing data to each zone. In effect, two six-frame mosaics were constructed for this task.

The mapping grid was configured so that the imagery would resample to the selected scale of 57 meters and rotated north assuring the data rasters would be aligned east-west relative to the mapping grid. The advantages of this technique are fairly straightforward. First, the data are displayed in a familiar fashion with north at the top, and second, map quadrangles can be extracted from the data base with a minimum of wasted storage space that results from rotation.

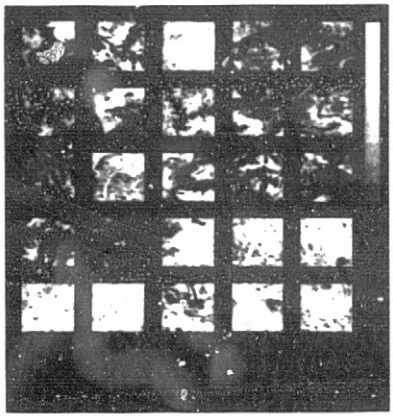
5.3 Planimetric Control

Planimetric control for remotely sensed imagery in a mosaicking context can be obtained in several ways. If the exposure or acquisition time of the scene is short enough, such as in a framing-type sensor, calibration and control of the data using spacecraft emphemeris information is often sufficient. Since the scene acquisition time for the Landsat image is on the order of 27 seconds, and because it is a scanning-type sensor, it is necesary to incorporate known geodetic points on the surface of the earth. Information obtained from the Control Point Library Building System (CPLBS) was used to provide planimetric control to each Landsat scene as each fits into the mosaic [5].

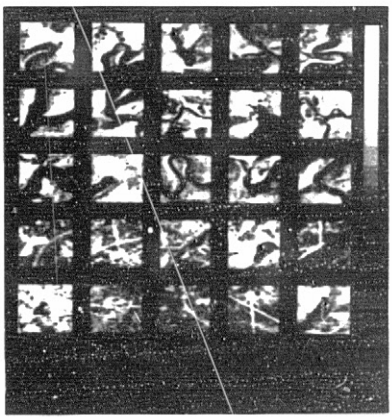
The information from the CPLBS consists of a 32-pixel by 32-pixel image chip containing a geographic feature, e.g., a road intersection or river bend, as well as the latitude and longitude of the feature. Additional engineering data regarding the Landsat band and which satellite the image chip was taken from is also included. The accuracy of the point is generally within 20 meters. Figures 13 through 22 are the CPLBS files in image format for the images in Pennsylvania.



CPLBS File for
Path 19 Row 31
TITUSVILLE
Figure 13

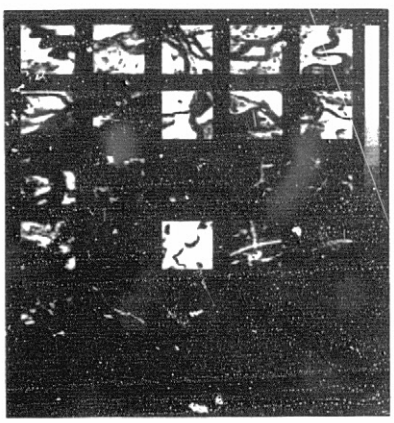


CPLBS File for
Path 19 Row 32
STEUBENVILLE
Figure 14

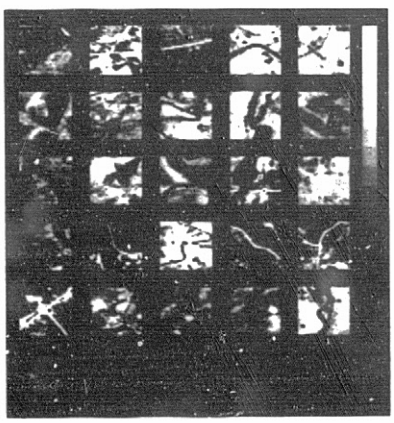


CPLBS File for
Path 18 Row 31
WARREN
Figure 15

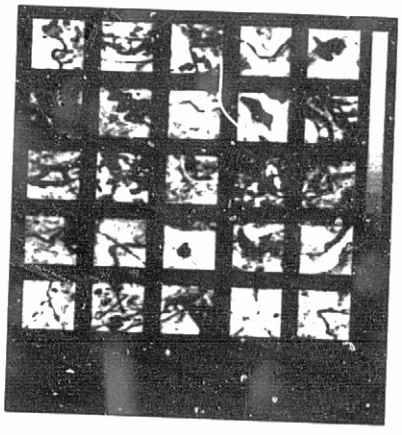
CPLBS File for
Path 18 Row 32
PITTSBURG
Figure 16



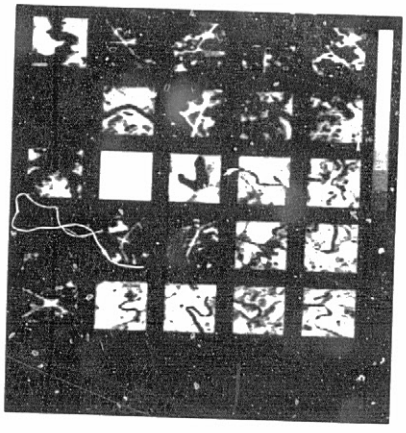
CPLBS File for
Path 17 Row 31
WILLIAMSPORT
Figure 17



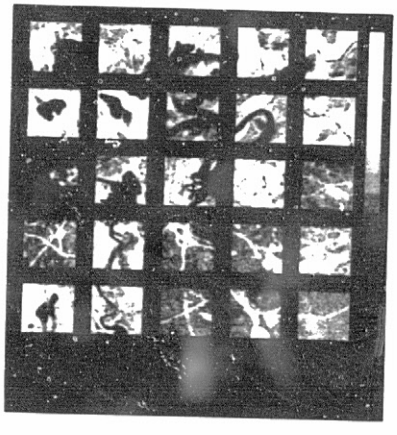
CPLBS File for
Path 17 Row 32
HARRISBURG
Figure 18



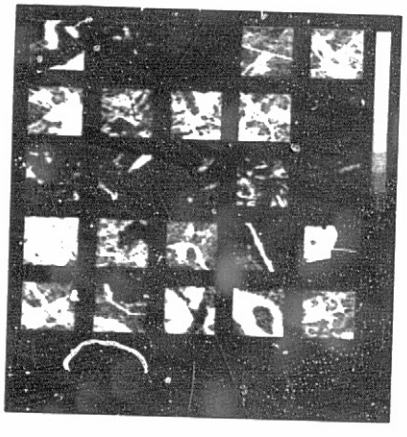
CPLBS File for
Path 16 Row 31
SCRANTON
Figure 19



CPLBS File for
Path 16 Row 32
LEBANON
Figure 20



CPLBS File for
Path 15 Row 31
POUGHKEEPSIE
Figure 21



CPLBS File for
Path 15 Row 32
TRENTON
Figure 22

Image correlation is performed using the two-dimensional fast Fourier transform (2D FFT) computational method to relate ground control points (GCPs) from the GPLBS with the associated locations in each Landsat scene [6]. To initiate the correlation procedure, three points are first identified in the Landsat scene that can also be found on a map. This process is usually done on an interactive display system with the line/sample coordinates found using a trackball cursor. The latitude and longitude of that point are read directly from the map. The three points are used to determine an affine surface that is used as an estimator of where the 2D FFT correlation routine is to search in the image to match a particular GCP. While the affine fit does not give the true location within a pixel (or several pixels), it does provide the search algorithm with a reasonable window in which to search. As good correlations are obtained, the surface is refined so that less searching is required as the algorithm proceeds through the GCP file.

There are several problems associated with using a preestablished ground control point file for image registration. First and foremost, the file has to be built, a large effort that has been expended by NASA and IBM. The file also has to be continuously updated because of changes in the ground scenes and the varying conditions of the imagery. A particularly difficult problem in the mosaic registration and control effort was trying to correlate the GCPs with Landsat scenes that were acquired over several seasons. The ground reflectance changes that occur from season to season impair the correlation performance. As an example, a stream course feature in GCP may be highly recognizable in a particular season, but when examining the scene it is being correlated with, the stream may be silted and the surrounding land cover blends in with the stream creating a low variance, and hence a low information content image. This makes it difficult to correlate all the GCPs selected for that particular path/row. At most, 18 of the 25 GCPs for each path/row were correlated for the Pennsylvania mosaic.

The ground control points correlated with the Landsat scenes used for the mosaic give each scene its position and projection in the global mapping output grid. If each scene were corrected and inserted into the grid with

only the GCPs as control, overall planimetric accuracy would be within prescribed tolerances but in all likelihood the edges between the neighboring frames would not match perfectly. To remedy this situation, a series of edge matching points is correlated in all overlapping areas of all scenes used. These points are then mapped (controlled) by the GCPs. The net effect of these additional points is to eliminate any side-to-side or top-to-bottom mismatch between scenes.

Information in the overlap area regarding brightness is also obtained and used to radiometrically correct the imagery at the same time that geometry changes are made. Difficulties in matching neighboring scenes radiometrically were experienced during the processing. With haze problems and the varying dates of the imagery, it was possible with existing software to match the brightness but not variance of average areas. With variance differences not resolved, marked divisions between scenes may occur.

The early date mosaic was completed in two stages. Separate control point files and mapping were used for UTM Zone 17 and UTM Zone 18. The resultant 'halves' of the mosaic for the state were each 6500 lines by 8500 samples. All four Landsat bands were corrected. These data were then mosaicked and segmented into the 1-degree by 2-degree quadrangles.

Quadrangle configurations and specifications for the Pennsylvania mosaic are listed in Table 3. Band 6 Landsat imagery for the Pennsylvania quadrangles (UTM Zones 17 and 18) is presented in Figures 23 through 30.

TABLE 3

QUADRANGLE CONFIGURATION PENNSYLVANIA MOSAIC

UTM Zone 17

QUAD	NAME	SERIES	TYPE	UPPER LEFT CORNER	LOWER RT. CORNER	NL*	NS*
1	Cleveland	NK17-8	1°x1°	42°N 81°W	41°N 80°W	2000	1500
2	Canton	NK17-11	1°x1°long	42°N 81°W	41°N 80°W	3000	1600
3	Warren	NK17-19	1°x2°	42°N 80°W	41°N 78°W	2100	3000
4	Pittsburgh	NK17-12	1°x2°long	41°N 80°W	39.5°N 78°W	3100	3100

UTM Zone 18

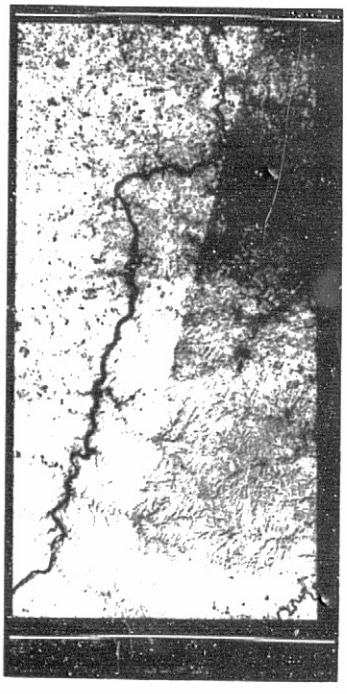
5	Williamsport	NK18-7	1°x2°	42°N 78°W	41°N 76°W	2100	3000
6	Harrisburg	NK18-10	1°x2°long	41°N 78°W	39·5°N 76°W	3100	3100
7	Scranton	NK18-8	1°x2°	42°N 76°W	41°N 76°W	2000	3000
8	Newark	NK18-11	1°x2°long	41°N 76°W	39·5°N 74°W	3000	3100

*NL = number of lines (records) in image

*NS = number of samples (bytes) per line

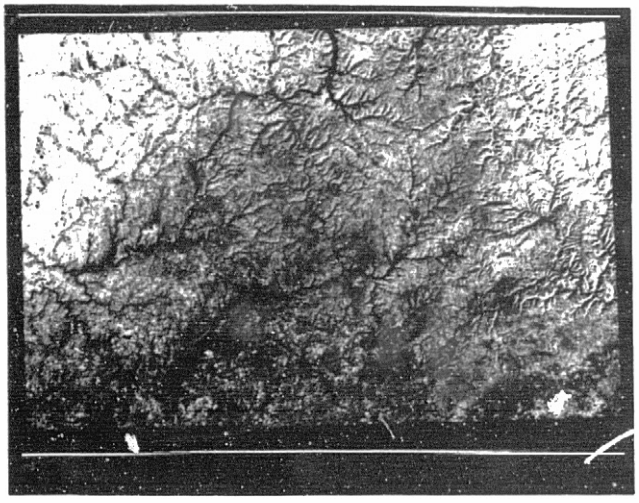
Cleveland NK17-8; 1° x 1° quadrangle of Band 6 Landsat imagery. This image is 2000 lines by 1500 samples.

Figure 23



Canton NK17-11; 1° x 1° quadrangle of Band 6 Landsat imagery. This image is 3000 lines by 1600 samples.

Figure 24

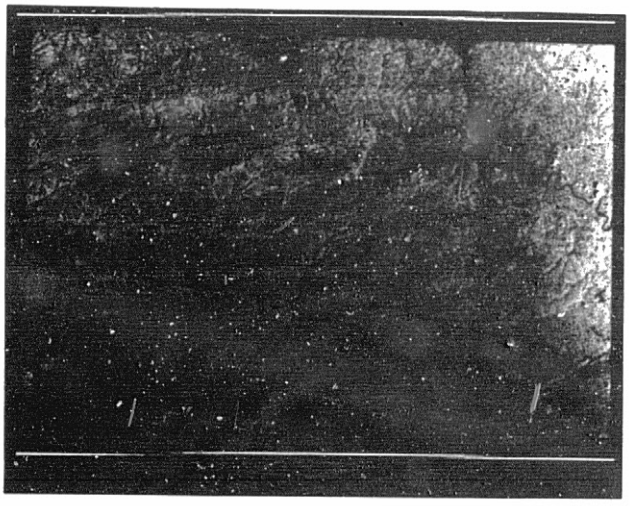


Warren NK17-9; 1° x 2° quadrangle of Band 6 Landsat imagery. This image is 2100 lines by 3000 samples.

Figure 25

Pittsburgh NK17-12; 1° x 2-1/2° quadrangle of Band 6 Landsat imagery. This image is 3100 lines by 3100 samples.

Figure 26

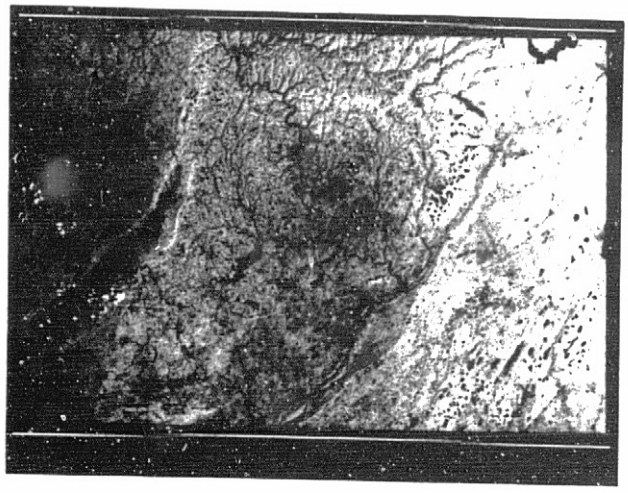


Williamsport NK18-7; 1° x 2° quadrangle of Band 6 Landsat imagery. This image is 2100 lines by 3000 samples.

Figure 27

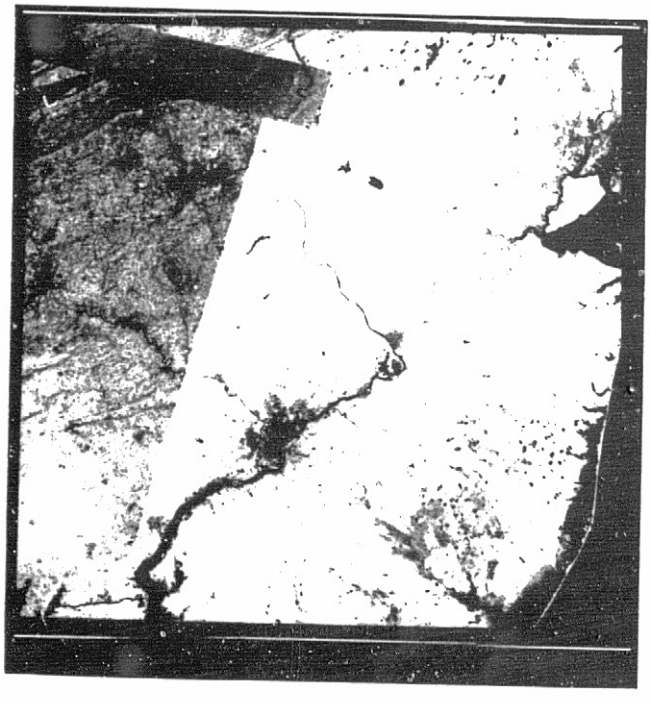
Harrisburg NK18-10; 1° x 2-1/2° quadrangle of Band 6 Landsat imagery. This image is 3100 lines by 3100 samples.

Figure 28



Scranton NK18-8; 1° x 2° quadrangle of Band 6 Landsat imagery. This image is 2000 lines by 3000 samples.

Figure 29



Newark NK18-11; 1° x 2-1/2° quadrangle of Band 6 Landsat imagery. This image is 3000 lines by 3100 samples.

Figure 30

5.4 Forest/Nonforest Mosaic

In a parallel effort, Goddard Space Flight Center personnel applied multispectral classification techniques to the unprocessed Landsat scenes that were used as input for the early data mosaic. One file of data depicting forest and nonforest land cover was derived and sent to JPL to be registered with the mosaic data base. Since the classification was derived from the 'raw' unlogged data, logging was performed using nearest neighbor interpolation to make the nominal geometric adjustments and then geometrically corrected a second time with nearest neighbor interpolation using the control points produced for the early date mosaic. These data were then mosaicked and segmented into the $1^{o} \times 2^{o}$ quadrangles.

5.5 Late Date Mosaic - Postdefoliation

Requirements for this task in Phase III stipulated that once the base mosaicking was completed for the entire state, the technology to update the mosaic on a yearly basis be transferred to the State of Pennsylvania. The VICAR/IBIS software system was obtained from COSMIC by the Office of Remote Sensing of Earth Resources (ORSER) at Pennsylvania State University. In early 1982 the system was installed and tested. Additional program modules needed to produce update mosaics were also delivered, installed, and tested. Once the system was running, a test mosaic was attempted with several goals in mind. First, it was necessary to initiate the ORSER staff in the functions and operation of the VICAR system with regard to mosaicking applications. Second, the Pennsylvania State computer system exercised VICAR to isolate problems peculiar to the facility. Finally, a prototype procedure for actually creating update mosaics had to be generated and an application case performed.

Both the late date and early date mosaics had to be generated in two sections, one section for each UTM zone in the state. In order to ease scheduling difficulties and to provide Penn State ORSER staff with mosaicking experience, a parallel effort was undertaken with the update mosaic for UTM Zone 17 being

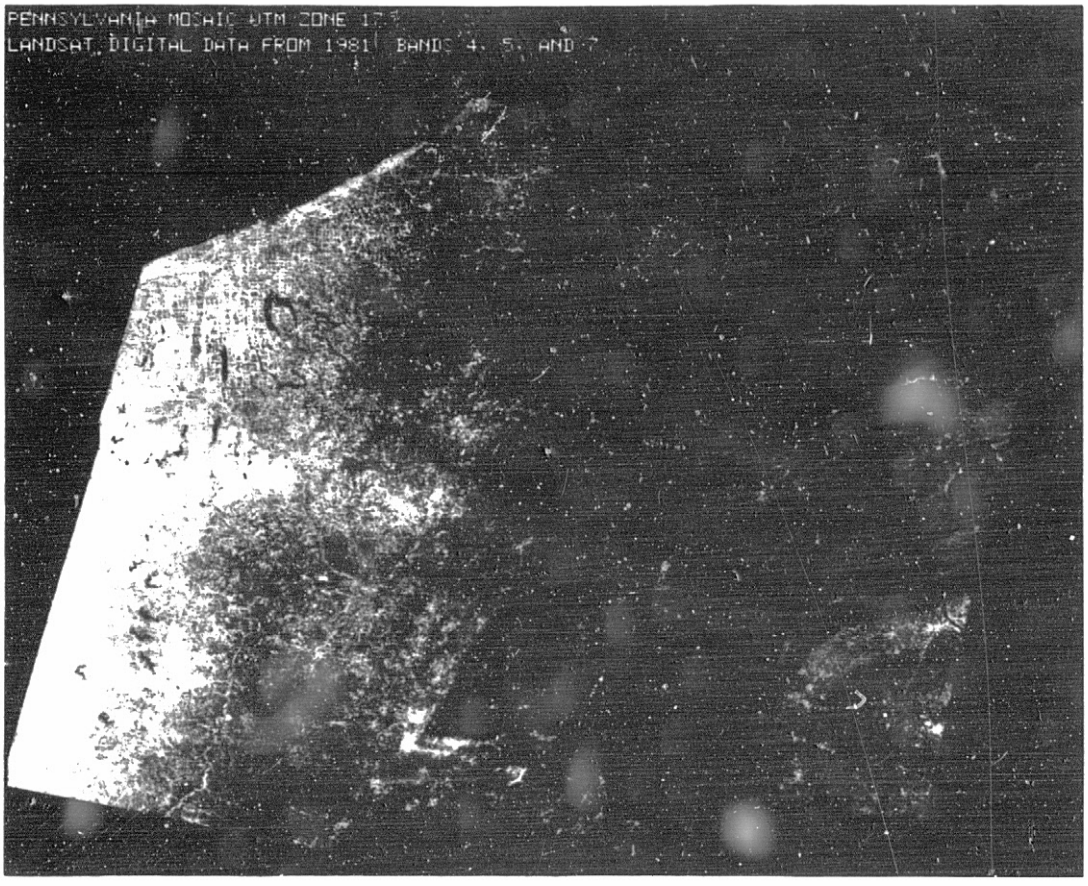
generated at JPL and the update mosaic for UTM Zone 18 generated at ORSER. This effort satisfied technology transfer requirements for Phase III of the task.

The Landsat scenes used in the UTM Zone 17 update mosaic were, fortunately, in the EDIPS format, easing preprocessing efforts. Table 4 depicts the scenes used in the update mosaic. Since the second date imagery is registered to the early date mosaic, the resultant products are identical to the original mosaic, except for ground cover changes. The update mosaics' dimensions are the same as the early date mosaic, 6500 lines by 8500 samples, and it is also segmented into the requisite quadrangles (Table 3). The completed composite of the Pennsylvania mosaic, UTM Zones 17 and 18, is shown in Figures 31 and 32.

TABLE 4

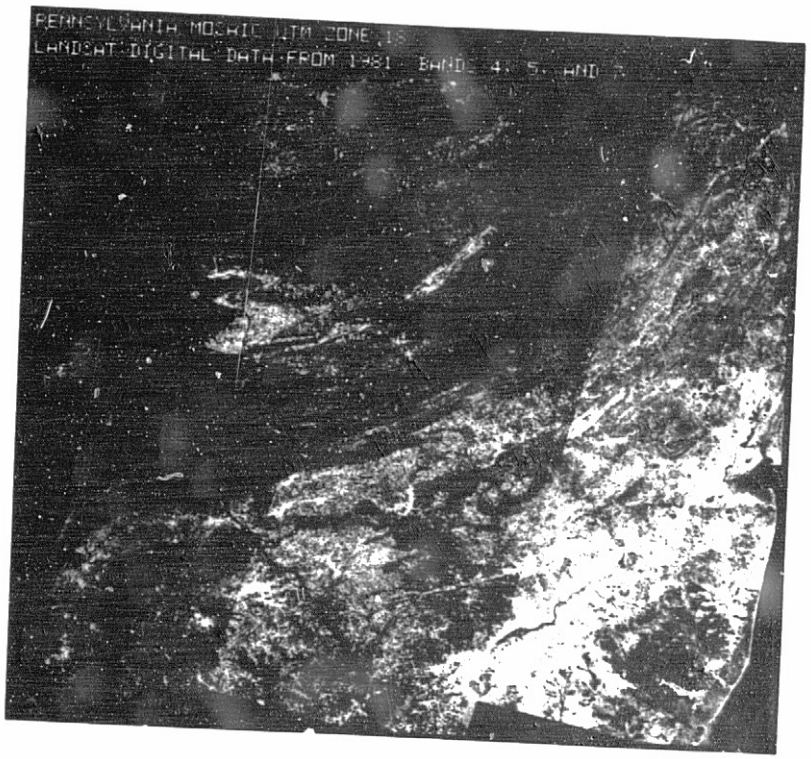
LANDSAT SCENES USED IN UTM ZONE 17 UPDATE MOSAIC

PATH	ROW	SCENE IDENTIFICATION	LOCATION NAME	DATE
19	31	22311-15214	Titusville	May 24, 1981
19	32	22311-15220	Steubenville	May 24, 1981
18	31	22400-15142	Warren	August 18, 1981
18	32	22400-15144	Pittsburgh	August 18, 1981
17	31	22381-15084	Williamsport	July 30, 1981
17	32	22381-15090	Harrisburg	July 30, 1981



UTM Zone 17 Mosaic, 1981. This image is a black and white composite of Landsat bands 4, 5, and 7. These data were reduced to 114-meter pixels to allow playback on the film recorder. The resultant image is 3250 lines by 4250 samples.

Figure 31



UTM Zone 18 Mosaic, 1981. This image is a black and white composite of Landsat bands 4, 5, and 7. These data were reduced to 114-meter pixels to allow playback on the film recorder. The resultant image is smaller (2625 lines and 3050 samples) than UTM Zone 17 because data outside the Pennsylvania State borders were removed to conserve storage space.

Figure 32

6.1 Tiepoint File Initialization

Tiepoint file organization is an important component of the mosaicking process. Tiepoints previously discussed such as ground control points and edge matching points require strict and consistent naming labels not only for use in procedures but also for bookkeeping within the system catalog. While the tiepoint files contain the locational information, additional information is appended to each file to be used as diagnostics in compiling the master correction file. Additional information such as sequence numbers, correlation value, and type of tiepoint (ground control or edge) is added. Sections 6.1.1 through 6.1.3 show the files allocated for use in the mosaic process at IPL.

6.1.1 UTM Zone 17

6.1.1.1 Ground Control Points (obtained from CPLBS)

RGM900.PAT1 PAT2 PAT3 PAT4 PAT5 PAT6	This file contains line and sample in the original Landsat image with the corresponding latitude and longitude. Each number at the end of the data set name refers to the frame to which the data set pertains. Data set size is 3600 bytes x 1 record.
RGM900.PAT1x1 PAT2x2 PAT3x3 PAT4x4 PAT5x5 PAT6x6	This file contains line and sample values of original Landsat and corresponding line, and a sample in the output grid. These points are map projected to UTM Zone 17. Each number at the end of each data set name refers to the frame numer to which the data set pertains. Data set size is 3600 bytes x 1 record.

(Frame numbers for UTM Zone 17 and UTM Zone 18 are 1 through 6 and 5 through 10, respectively; frame numbers for UTM Zone 17 second date are 11 through 16).

6.1.1.2 Edge Matching Points

RGM900.PAT1x2
PAT1x3
PAT1x4
PAT2x4
PAT3x4
PAT3x5
PAT3x6
PAT4x6
PAT5x6

This file contains line and sample in the original Landsat images for neighboring frames. For example, data set RGM900.PAT1x2 contains points common to frame 1 and frame 2. Additional information includes correlation values for each point and a sequence number for identification.

Data set size is 3600 bytes x 5 records.

6.1.1.3 Perimeter File

RGM900.PATCUT

This file contains perimeter information for each frame and is used in selecting edge matching points as well as in the final correction phase. Specific information includes the sequence, frame number, and vertices for a user defined contour along which tiepoints are selected.
Data set size is 1200 bytes x 12 records.

6.1.1.4 Label Verification File

RGM900.PATVFY

This data set is used for checking the header labels to insure that the correct image file is being processed. Information includes frame acquisition number, frame title, and spectral band.
Data set size is 360 bytes x 10 records.

6.1.1.5 Master Tiepoint Files

RGM900.PATZ17L — This file contains information for raw tiepoints for all frame-pairs and neighbors. Frame number, sequences, tiepoint type, line, sample, initial Z value, and correlation value are included.
Data set size is 360 bytes x 360 records.

RGM900.PATZ17M — This file contains the same information as the 'PATZ17L' file. This version is edited and operated on to produce the final tiepoints used for frame correction.
Data set size is 360 bytes x 300 records.

6.1.2 UTM Zone 17, Second Date: 1981

6.1.2.1 Ground Control Points (correlation matches obtained between first second dates)

RGM900.PAT11
PAT12
PAT13
PAT14
PAT15
PAT16 — This file contains line and sample in the original Landsat image with the corresponding line and sample in the update frames. Each number at the end of the data set name refers to the frame to which the data set pertains.
Data set size is 3600 bytes x 1 record.

RGM900.PAT11x11
PAT12x12
PAT13x13
PAT14x14
PAT15x15
PAT16x16 — This file contains line and sample values of original Landsat and corresponding line and sample in the output grid. These points are map projected to UTM Zone 17 by virtue of being chosen from the first date UTM Zone 17 mosaic frames. Each number at the end of each data set name refers to the frame number to which the data set pertains.
Data set size is 3600 bytes x 1 record.

6.1.2.2 Edge Matching Points

RGM900.PAT11x12
PAT11x13
PAT11x14
PAT12x14
PAT13x14
PAT13x15
PAT13x16
PAT14x16
PAT15x16

This file contains line and sample in the original Landsat images for neighboring frames. For example, data set RGM900.PAT1x2 contains points common to frame 11 and frame 12. Additional information includes correlation values for each point and a sequence number for identification.

Data set size is 3600 bytes x 5 records.

6.1.2.3 Perimeter File

RGM900.PATCUT

This file contains perimeter information for each frame and is used in selecting edge matching points as well as in the final correction phase. Specific information includes the sequence, frame number, and vertices for a user defined contour along which tiepoints are selected.
Data set size is 1200 bytes x 12 records.

6.1.2.4 Label Verification File

RGM900.PATVFY

This data set is used for checking the header labels to insure that the correct image file is being processed. Information includes frame acquisition number, frame title, and spectral band.
Data set size is 360 bytes x 10 records.

6.1.2.5 Master Tiepoint Files

RGM900.PATZ172L — This file contains information for raw tiepoints for all frame pairs, and neighbors. Frame number, sequences, tiepoint type, line, sample, initial Z value, and correlation value are included.
Data set size is 360 bytes x 360 records.

RGM900.PATZ172M — This file contains the same information as the 'PATZ172L' file. This version is edited and operated on to produce the final tiepoints used for frame correction.
Data set size is 360 bytes x 300 records.

6.1.3 UTM Zone 18

6.1.3.1 Ground Control Points (obtained from CPLBS)

RGM900.PAT5
PAT6
PAT7
PAT8
PAT9
PAT10 — This file contains line and sample in the original Landsat image with the corresponding latitude and longitude. Each number at the end of the data set name refers to the frame to which the data set pertains.
Data set size is 3600 bytes x 1 record.

RGM900.PAT5x5
PAT6x6
PAT7x7
PAT8x8
PAT9x9
PAT10x10 — This file contains line, sample values of original Landsat, and corresponding line and sample in the output grid. These points are map projected to UTM Zone 18. Each number at the end of each data set name refers to the frame number to which the data set pertains.
Data set size is 3600 bytes x 1 record.

6.1.3.2 Edge Matching Points

RGM900.PAT5x6
PAT5x7
PAT5x8
PAT6x8
PAT7x8
PAT7x9
PAT7x10
PAT8x10
PAT9x10

This file contains line and sample in the original Landsat images for neighboring frames. For example, data set RGM900.PAT5x6 contains points common to frame 5 and frame 6. Additional information includes correlation values for each point and a sequence number for identification.

Data set size is 3600 bytes x 5 records.

6.1.3.3 Perimeter File

RGM900.PATCUT

This file contains perimeter information for each frame and is used in selecting edge matching points as well as in the final correction phase. Specific information includes the sequence, frame number, and vertices for a user defined contour along which tiepoints are selected.
Data set size is 1200 bytes x 12 records.

6.1.3.4 Label Verification File

RGM900.PATVFY

This data set is used for checking the header labels to insure that the correct image file is being processed. Information includes frame acquisition number, frame title, and spectral band.
Data set size is 360 bytes x 10 records.

6.1.3.5 Master Tiepoint Files

RGM900.PATZ18L — This file contains information for raw tiepoints for all frame pairs and neighbors. Frame number, sequences, tiepoint type, line, sample, initial Z value, and correlation value are included.
Data set size is 360 bytes x 360 records.

RGM900.PATZ18M — This file contains the same information as the 'PATZ18L' file. This version is edited and operated on to produce the final tiepoints used for frame correction.
Data set size is 360 bytes x 300 records.

6.2 Edge Point Selection Process

In order to insure that separate scenes register without any apparent mismatch, a series of edge registration points are selected. There is a basic philosophy involved here in which two types of tiepoints are used. Manually selected ground control points establish absolute control to a map base. If each scene were corrected independently using only the ground control points, fitting the processed scenes together would not be possible without producing seams. The edge matching points merge the discontinuities so that a smooth geometric seam boundary is obtained.

6.2.1 Definition of Perimeter File

The first step in selecting common points between neighboring Landsat frames is to define a perimeter file around each image. The perimeter is usually chosen to reside within 100 pixels from the edge of the image. With the information in the file, common points can be selected along the line or reasonably close to the line. The advantage lies in that all image data

outside the perimeter can be discarded after processing and thus insuring that scene boundaries are exactly at the tiepoint locations. The only possible way for geometric seams to occur is to have erroneous tiepoints in the correction file.

6.2.2 Three-Point Fit

In order to establish a rough relationship between neighboring scenes, three existing ground control points (either derived from correlations of the CPBLS or manual) are selected to compute an affine surface fit. A plane is fitted for each neighbor pair. The information from this operation is used to direct the correlation routine where to search for tiepoints in each scene. Once the routine knows where to search, the selection process is incremented in 100 pixel intervals along the user defined perimeter. A cutting process is implemented at a later stage that removes all bad data outside the perimeter that may be due to problem electronics or data processing.

6.2.3 Phase Correlation

The three-point fit described above established a geometric relationship or model between the two images being correlated. This model is used for two purposes. First, it predicts a search location, and second, it specifies a resampling from one frame to match the geometry of the other. Within a search area, the routine always correlates 32x32 windows from each frame. If the search area is larger, then one of the windows is moved in twelve pixel steps over the search area. The correlation is accomplished by taking the discrete Fourier transform in the complex domain, using the FFT algorithm, of each window. The low order row and column is deleted. The resulting matrices are multiplied element by element taking the conjugate of one element and dividing each result by its magnitude. This removes the power information yielding phase correlation. Then the inverse FFT is applied and the peak indicates the amount of shift of the sources. A final correlation is performed again at the peak to get a refined result, and a surface fit to the peak yields subpixel location accuracy. Good correlations are input to the model to reduce search.

6.3 Mosaic Procedures

6.3.1 MOS31

The MOS31 procedure has several functions. Firstly, it is designed to format all tiepoints used for the mosaic into the standard IBIS (Image Based Information System) file of 360 bytes. The mapped ground control points and edge matching points are merged in this operation. Secondly, preliminary editing is done at this stage based solely upon the correlation value obtained for the edge matching points. Generally, all points with correlation values greater than 140 were kept for later processing. No editing on the ground control points is done at this stage. Thirdly, a series of diagnostics is generated to aid in subsequent editing of the tiepoints. Generally, the gathering and the compilation of the tiepoints is an easy process when compared with the editing of the points. Editing is a labor intensive and detailed procedure.

A least squares fit is performed through the points at this stage in order to gather a feeling for the 'goodness' of the selected points. This helps isolate the very bad points immediately. A delta Z value (brightness) for each is also computed in order to ascertain radiance differences between scenes. On rare occurrences, a high correlation value may be returned from the phase correlation routine but is actually in error. A high delta Z value will help point this out early in the process.

6.3.2 MOS33

During this step, two operations are performed. While the ground control points are in reference to local line/sample and global line/sample, the edge matching points are in reference only to local line/sample. Local line/sample refers to the x, y coordinate position in the individual Landsat scenes. Formatting of tiepoints to fit VICAR convention requires that the points be referenced as new line/new sample; old line/old sample. Here, the edge matching points are mapped to the UTM's projection output grid based upon the

existing map control points (CPBLS) selected for each frame. In later steps, an offset is subtracted out to reduce computation time and then added back in later when the mosaic is pieced together.

Secondly, a listing is generated which maps the image edges to the output grid. This is helpful in determining image output size, since the rotation of the frame to north is taken into account. Table 5 shows the corner mapping of the edges of the constituent frames used.

TABLE 5

Corner Mapping

PAGE 1.001

CORNER MAPPING - - CASE RGM900.PAT STEP 3

FRAME	TO LINE	TO SAMP	FROM LINE	FROM SAMP	LINE LSQ FIT			SAMPLE LSQ FIT		
11	1011.87	1815.08	100.00	400.00	0.981030	0.203621	832.32	-0.198529	0.985651	1440.67
11	1602.38	4673.46	100.00	3300.00	0.981030	0.203621	832.32	-0.198529	0.985651	1440.67
11	4328.90	4019.02	2900.00	3200.00	0.981030	0.203621	832.32	-0.198529	0.985651	1440.67
11	3718.03	1062.07	2900.00	200.00	0.981030	0.203621	832.32	-0.198529	0.985651	1440.67
11	1011.87	1815.08	100.00	400.00	0.981030	0.203621	832.32	-0.198529	0.985651	1440.67
12	3783.22	1116.65	100.00	400.00	0.978163	0.203101	3604.17	-0.202466	0.979740	745.00
12	4372.21	3957.89	100.00	3300.00	0.978163	0.203101	3604.17	-0.202466	0.979740	745.00
12	7090.76	3293.01	2900.00	3200.00	0.978163	0.203101	3604.17	-0.202466	0.979740	745.00
12	6481.46	353.79	2900.00	200.00	0.978163	0.203101	3604.17	-0.202466	0.979740	745.00
12	3783.22	1116.65	100.00	400.00	0.978163	0.203101	3604.17	-0.202466	0.979740	745.00
13	1000.54	3912.43	100.00	400.00	0.982971	0.185207	828.16	-0.184260	0.982943	3537.68
13	1537.64	6762.97	100.00	3300.00	0.982971	0.185207	828.16	-0.184260	0.982943	3537.68
13	4271.44	6148.75	2900.00	3200.00	0.982971	0.185207	828.16	-0.184260	0.982943	3537.68
13	3715.82	3199.92	2900.00	200.00	0.982971	0.185207	828.16	-0.184260	0.982943	3537.68
13	1000.54	3912.43	100.00	400.00	0.982971	0.185207	828.16	-0.184260	0.982943	3537.68
14	3778.22	3244.12	100.00	400.00	0.982721	0.186614	3605.31	-0.185440	0.981786	2869.95
14	4319.40	6091.30	100.00	3300.00	0.982721	0.186614	3605.31	-0.185440	0.981786	2869.95
14	7052.36	5473.88	2900.00	3200.00	0.982721	0.186614	3605.31	-0.185440	0.981786	2869.95
14	6492.52	2528.53	2900.00	200.00	0.982721	0.186614	3605.31	-0.185440	0.981786	2869.95
14	3778.22	3244.12	100.00	400.00	0.982721	0.186614	3605.31	-0.185440	0.981786	2869.95
15	724.12	6043.18	100.00	400.00	0.987067	0.180023	553.40	-0.167125	0.983990	5666.30
15	1246.19	8896.75	100.00	3300.00	0.987067	0.180023	553.40	-0.167125	0.983990	5666.30
15	3991.97	8330.40	2900.00	3200.00	0.987067	0.180023	553.40	-0.167125	0.983990	5666.30
15	3451.90	5378.43	2900.00	200.00	0.987067	0.180023	553.40	-0.167125	0.983990	5666.30
15	724.12	6043.18	100.00	400.00	0.987067	0.180023	553.40	-0.167125	0.983990	5666.30
16	3530.31	5415.68	100.00	400.00	0.985889	0.181310	3359.20	-0.167818	0.985870	5038.12
16	4056.11	8274.71	100.00	3300.00	0.985889	0.181310	3359.20	-0.167818	0.985870	5038.12
16	6798.46	7706.23	2900.00	3200.00	0.985889	0.181310	3359.20	-0.167818	0.985870	5038.12
16	6254.54	4748.62	2900.00	200.00	0.985889	0.181310	3359.20	-0.167818	0.985870	5038.12
16	3530.31	5415.68	100.00	400.00	0.985889	0.181310	3359.20	-0.167818	0.985870	5038.12

This table predicts the size of the output picture and the location in the output picture of each of the four corners of the scene.

6.3.3 MOS34

The MOS34 procedure step performs two operations. The first operation subtracts an offset from the line/sample positions in the tiepoint file. The offset is subtracted from the 'To' line and samples in order to reduce the computation time and storage space. As an example, a given pixel may be directed to an address in the 5000 range in terms of image rasters. This would necessitate that the output image also be at least 5000 lines or samples large. In order to save time and space, an offset is subtracted out so that each frame can be adjusted within a small image domain rather than a large one. The large image domain is dealt with only after all corrections have been performed, and then for only a short time since the finished mosaic is divided into smaller, manageable quadrangles.

The second operation generates a diagnostic describing the interframe error or residual in pixels. This diagnostic depicts the difference in separately computed least squares fit for each frame, each point. The average for each point pair is then computed and stored as a 'To' location. Table 6 is the MOS34 listing output for UTM Zone 17 Phase II, Table 7 is the MOS34 listing output for Zone 18 Phase II, and Table 8 depicts the tiepoint's output in MOS34 for UTM Zone 17 second date.

TABLE 6

MOS34 Output Listing UTM Zone 17

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PAGE 1.001

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
1	1	2	FIX	900	1100	1377.98	989.83	1006.21	603.10	37.2*******		0.0	0.0*********		100	100
1	1	3	FIX	900	1100	957.62	1930.48	578.83	1427.41	35.5*******		0.0	0.0*********		100	100
1	1	4	FIX	900	1100	2694.13	2737.22	1670.71	2000.87	25.0*******		0.0	0.0*********		100	100
1	1	6	FIX	900	1100	2050.20	2457.39	1264.00	2134.00	22.0*******		0.0	0.0*********		100	100
1	1	7	FIX	900	1100	1321.63	3361.58	629.33	2882.00	23.1*******		0.0	0.0*********		100	100
1	1	8	FIX	900	1100	1395.07	2349.98	824.24	1915.32	18.3*******		0.0	0.0*********		100	100
1	1	9	FIX	900	1100	2416.55	1474.78	1657.96	1294.07	19.2*******		0.0	0.0*********		100	100
1	1	12	FIX	900	1100	1794.87	1948.10	1159.55	1614.01	22.3*******		0.0	0.0*********		100	100
1	1	14	FIX	900	1100	342.62	2734.73	37.27	2061.22	34.0*******		0.0	0.0*********		100	100
1	1	15	FIX	900	1100	1405.35	3150.37	716.90	2697.08	23.1*******		0.0	0.0*********		100	100
1	1	16	FIX	900	1100	2043.99	3020.73	1179.01	2709.12	22.6*******		0.0	0.0*********		100	100
1	1	17	FIX	900	1100	2594.72	1890.41	1722.35	1728.30	30.1*******		0.0	0.0*********		100	100
1	1	19	FIX	900	1100	2755.96	1105.85	1945.92	1013.07	33.3*******		0.0	0.0*********		100	100
1	1	20	FIX	900	1100	817.35	2501.54	400.17	1933.59	20.5*******		0.0	0.0*********		100	100
1	2	1	MJVE	900	1100	2186.43	1082.25	1553.68	806.18	37.3*******		0.0	0.0*********		100	100
1	2	2	MJVE	900	1100	2821.16	143.57	2128.52	93.00	+9.6	50.1	0.8	7.3	-0.5	100	100
1	2	3	MJVE	900	1100	2841.16	240.87	2128.51	193.49	40.8	+0.9	0.8	6.8	-0.1	100	100
1	2	4	MJVE	900	1100	2860.95	337.25	2128.50	291.49	+1.1	41.1	0.7	5.9	0.0	100	100
1	2	5	MJVE	900	1100	2880.92	434.73	2128.49	390.44	+7.0	47.1	0.6	5.2	-0.1	100	100
1	2	6	MJVE	900	1100	2900.83	531.88	2128.51	488.49	50.0	49.9	0.5	5.0	0.1	100	100
1	2	7	MJVE	900	1100	2920.71	628.93	2128.50	586.44	35.7	35.8	0.5	4.8	-0.0	100	100
1	2	8	MJVE	900	1100	2940.82	727.01	2128.51	685.51	+2.0	42.0	0.5	4.5	-0.1	100	100
1	2	9	MJVE	900	1100	2960.71	824.09	2128.50	783.46	37.4	37.5	0.5	4.4	-0.1	100	100
1	2	10	MJVE	900	1100	2980.83	922.26	2128.50	882.43	39.9	40.3	0.5	4.3	-0.4	100	100
1	2	11	MJVE	900	1100	3000.76	1019.47	2128.50	980.44	+0.8	41.7	0.5	4.2	-0.9	100	100
1	2	12	MJVE	900	1100	3020.71	1116.80	2128.49	1078.54	40.6	40.5	0.5	4.0	-0.1	100	100
1	2	13	MJVE	900	1100	3040.86	1215.04	2128.52	1177.36	33.6	34.7	0.5	3.9	-1.0	100	100
1	2	14	MJVE	900	1100	3060.85	1312.46	2128.49	1275.94	+2.3	42.8	0.4	3.5	-0.4	100	100
1	2	15	MJVE	900	1100	3080.98	1410.57	2128.49	1374.52	43.2	45.0	0.4	3.4	-0.2	100	100
1	2	16	MJVE	900	1100	3100.98	1508.04	2128.50	1473.19	41.3	41.4	0.4	3.2	-0.2	100	100
1	2	17	MJVE	900	1100	3120.92	1605.20	2128.51	1571.23	34.0	34.0	0.2	2.9	-0.2	100	100
1	2	21	MJVE	900	1100	3141.04	1703.34	2128.50	1670.44	36.5	36.6	0.1	2.6	-0.0	100	100
1	2	25	MJVE	900	1100	3220.86	2092.53	2128.47	2062.41	32.6	34.0	-0.1	1.6	-0.1	100	100
1	2	30	MJVE	900	1100	3380.97	2872.92	2128.50	2820.39	33.5	52.9	-0.1	0.4	-1.4	100	100
1	2	31	MJVE	900	1100	3401.17	2971.12	2128.50	2949.43	36.8	37.0	-0.5	-0.7	0.6	100	100
1	2	32	MJVE	900	1100	3421.16	3068.37	2128.48	3047.33	33.7	33.8	-0.4	-2.9	-0.2	100	100
1	2	33	MJVE	900	1100	3441.36	3166.58	2128.49	3146.39	30.9	30.8	-0.4	-3.2	-0.1	100	100
1	2	34	MJVE	900	1100	3572.48	3129.92	2224.51	3139.75	39.2	39.3	-0.3	-3.3	-0.1	100	100
1	2	35	MJVE	900	1100	3705.69	3093.04	2322.50	3133.39	29.5	29.2	-0.3	-3.3	-0.3	100	100
1	2	36	MJVE	900	1100	3087.28	14.38	2323.50	85.98	48.1	48.0	-0.4	-3.8	0.3	100	100
1	2	39	MJVE	900	1100	2953.53	109.18	2225.49	90.39	33.8	33.5	-0.6	-7.5	0.1	100	100
1	2	40	MJVE	900	1100	3580.36	2980.65	2250.50	3003.50	29.9	30.0	-0.2	-7.3	0.2	100	100
1	2	42	MJVE	900	1100	3540.80	2794.33	2250.50	2809.50	29.5	29.7	-0.3	-3.4	-0.1	100	100
1	2	47	MJVE	900	1100	3441.81	2315.15	2250.50	2329.50	35.9	36.2	-0.8	-3.2	-0.2	100	100
1	2	48	MJVE	900	1100	3422.29	2223.00	2250.50	2229.50	36.4	36.4	-0.7	-1.2	-0.3	100	100
1	2	49	MJVE	900	1100	3402.58	2123.86	2250.50	2129.50	69.9	70.3	-0.6	-0.8	-0.0	100	100
1	2	50	MJVE	900	1100	3382.84	2027.71	2250.50	2033.50	31.0	31.2	-0.6	-0.4	-0.4	100	100
1	2	51	MJVE	900	1100	3363.09	1931.34	2250.50	1938.50	43.2	43.3	-0.5	-0.0	-0.1	100	100
													0.2	-0.0	100	100

This tiepoint file is used as input to geometrically correct each Landsat scene used in the UTM Zone 17 mosaic.

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
1	2	54	MOVE	900	1100	3303.86	1642.52	2250.50	1640.50	52.6	52.3	-0.6	-0.0	0.4	100	100
1	2	55	MOVE	900	1100	3284.13	1540.27	2250.50	1551.50	41.1	41.1	-0.5	0.3	-0.1	100	100
1	2	56	MOVE	900	1100	3264.37	1443.96	2250.50	1454.50	39.4	39.6	-0.5	0.5	-0.2	100	100
1	2	57	MOVE	900	1100	3244.91	1353.04	2250.50	1360.50	40.5	40.4	-0.4	1.2	0.1	100	100
1	2	58	MOVE	900	1100	3225.09	1258.36	2250.50	1261.50	38.3	38.7	-0.4	1.0	-0.4	100	100
1	2	59	MOVE	900	1100	3205.40	1162.35	2250.50	1164.50	40.9	40.9	-0.3	1.6	-0.0	100	100
1	2	60	MOVE	900	1100	3185.65	1065.92	2250.50	1067.50	47.5	47.5	-0.3	1.7	0.0	100	100
1	2	61	MOVE	900	1100	3165.92	969.63	2250.50	970.50	32.6	32.5	-0.3	1.8	0.0	100	100
1	2	62	MOVE	900	1100	3146.41	874.39	2250.50	874.50	35.6	35.7	-0.3	1.9	-0.1	100	100
1	2	63	MOVE	900	1100	3126.68	778.07	2250.50	777.50	43.2	43.4	-0.3	1.8	-0.2	100	100
1	2	64	MOVE	900	1100	3106.95	681.68	2250.50	680.50	47.5	47.4	-0.3	1.7	0.1	100	100
1	2	65	MOVE	900	1100	3087.37	585.94	2250.50	584.50	43.3	43.5	-0.2	2.3	-0.1	100	100
1	2	66	MOVE	900	1100	3068.11	491.89	2250.50	487.50	37.4	37.4	-0.1	3.5	-0.0	100	100
1	2	67	MOVE	900	1100	3048.61	396.87	2250.50	396.50	48.4	48.7	0.3	4.8	-0.3	100	100
1	2	68	MOVE	900	1100	3029.09	301.79	2250.50	293.50	43.1	43.5	0.5	6.0	-0.4	100	100
1	2	69	MOVE	900	1100	3009.49	206.46	2250.50	196.50	44.9	45.3	0.6	7.0	-0.3	100	100
1	2	70	MOVE	900	1100	2989.98	111.57	2250.50	100.50	41.4	41.9	0.8	7.4	-0.5	100	100
1	2	71	MOVE	900	1100	2856.05	145.48	2152.50	104.50	45.1	45.0	0.8	7.1	-0.1	100	100
1	2	72	MOVE	900	1100	2722.38	180.45	2054.50	109.50	48.8	48.9	1.0	7.0	-0.1	100	100
1	3	19	MOVE	900	1100	409.79	2624.27	100.50	1970.50	32.7	38.6	-1.3	-4.5	-5.9	100	100
1	3	20	MOVE	900	1100	430.34	2724.62	100.50	2069.50	31.2	35.4	-0.9	-2.3	-4.1	100	100
1	3	21	MOVE	900	1100	450.61	2822.99	100.50	2167.50	31.2	32.0	-0.5	-0.8	-0.8	100	100
1	3	22	MOVE	900	1100	470.32	2921.47	100.50	2266.50	31.0	35.3	-0.3	-0.6	-4.3	100	100
1	3	24	MOVE	900	1100	510.28	3115.28	100.50	2462.50	28.2	29.6	-0.3	0.9	-1.4	100	100
1	3	25	MOVE	900	1100	529.90	3212.05	100.50	2561.50	27.0	29.8	-0.3	2.4	-2.8	100	100
1	3	26	MOVE	900	1100	549.01	3307.97	100.50	2659.50	29.5	31.6	-0.1	2.1	-2.0	100	100
1	3	27	MOVE	900	1100	568.64	3404.32	100.50	2758.50	26.7	27.8	-0.3	1.9	-1.1	100	100
1	3	28	MOVE	900	1100	588.07	3499.46	100.50	2856.50	32.1	36.7	-0.5	1.2	-4.6	100	100
1	3	30	MOVE	900	1100	626.84	3693.26	100.50	3053.50	34.6	39.8	-1.7	-0.2	-5.2	100	100
1	3	75	MOVE	900	1100	3008.88	3043.01	1845.42	2950.49	34.9	38.2	-0.4	-4.7	-3.3	100	100
1	3	76	MOVE	900	1100	2956.20	2747.97	1850.93	2653.82	28.0	26.2	0.8	-5.3	1.7	100	100
1	3	77	MOVE	900	1100	2938.90	2651.97	1852.48	2556.37	30.7	31.0	1.2	1.8	-0.2	100	100
1	3	78	MOVE	900	1100	2921.53	2555.35	1854.11	2458.85	30.3	27.9	1.5	3.1	2.4	100	100
1	3	79	MOVE	900	1100	2904.13	2458.89	1855.65	2361.60	31.5	32.0	1.8	4.1	-0.6	100	100
1	3	80	MOVE	900	1100	2887.12	2363.39	1857.49	2264.59	35.0	38.6	1.7	4.9	-3.5	100	100
1	3	81	MOVE	900	1100	2870.42	2268.79	1859.45	2167.08	37.6	40.7	1.5	4.7	-3.1	100	100
1	3	82	MOVE	900	1100	2853.21	2173.92	1860.81	2068.39	30.1	28.3	1.6	4.6	1.8	100	100
1	3	83	MOVE	900	1100	2836.32	2079.30	1862.55	1970.39	31.3	33.0	1.2	3.4	-1.7	100	100
1	3	84	MOVE	900	1100	2819.45	1984.63	1864.34	1872.00	34.2	34.9	0.8	1.7	-0.7	100	100
1	3	85	MOVE	900	1100	2800.96	1890.74	1863.66	1775.50	33.4	36.0	0.3	0.0	-2.6	100	100
1	3	86	MOVE	900	1100	2669.25	1925.44	1768.49	1780.50	30.2	30.5	-0.1	-1.4	-0.3	100	100
1	3	87	MOVE	900	1100	2536.17	1959.77	1671.62	1780.32	28.5	30.3	-0.8	-2.9	-1.8	100	100
1	3	88	MOVE	900	1100	2270.65	2023.50	1478.29	1795.27	33.7	34.8	-1.1	-5.4	-1.1	100	100
1	3	91	MOVE	900	1100	2137.08	2057.08	1381.33	1790.50	29.2	29.8	-1.2	-6.4	-0.6	100	100
1	3	92	MOVE	900	1100	2003.38	2090.64	1283.66	1800.59	34.2	41.6	-1.0	-5.7	-7.4	100	100
1	3	93	MOVE	900	1100	1869.82	2122.96	1186.46	1803.26	32.2	34.4	-1.1	-6.0	-2.2	100	100
1	3	94	MOVE	900	1100	1737.81	2155.72	1090.18	1806.34	32.0	35.0	-1.2	-5.7	-3.1	100	100
1	3		MOVE	900	1100	1603.89	2187.79	992.44	1808.50	31.4	33.4	-1.0	-5.7	-2.1	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
1	3	95	MJVE 900 1100	1470.41	2219.99	895.41	1810.85	28.2	29.4	-1.5	-5.4	-1.2	100	100
1	3	96	MJVE 900 1100	1337.78	2252.66	798.46	1814.45	26.3	28.0	-1.5	-6.0	-1.7	100	100
1	3	97	MJVE 900 1100	1203.68	2284.61	700.51	1817.41	28.4	31.3	-1.7	-6.7	-2.9	100	100
1	3	98	MJVE 900 1100	1070.30	2316.77	603.51	1819.85	30.5	31.9	-2.3	-6.5	-1.4	100	100
1	3	99	MJVE 900 1100	936.02	2348.28	505.40	1821.98	30.0	33.7	-2.3	-6.7	-3.7	100	100
1	3	101	MJVE 900 1100	668.94	2412.25	310.70	1826.74	32.6	34.1	-2.1	-7.4	-1.5	100	100
1	3	102	MJVE 900 1100	534.65	2445.35	212.64	1829.52	33.8	41.6	-1.9	-8.2	-7.8	100	100
1	3	301	MJVE 900 1100	772.65	2451.98	377.00	1885.00	0.0	0.0	-2.1	-5.8	0.0	100	100
1	3	302	MJVE 900 1100	784.26	3886.98	182.00	3485.00	0.0	0.0	-3.6	-12.8	0.0	100	100
1	3	303	MJVE 900 1100	699.41	3900.97	121.00	3521.00	0.0	0.0	-3.6	-13.6	0.0	100	100
1	3	304	MJVE 900 1100	806.60	3771.26	214.00	3174.00	0.0	0.0	-2.7	-8.4	0.0	100	100
1	3	305	MJVE 900 1100	922.56	3725.16	301.00	3154.00	0.0	0.0	-2.4	-7.8	0.0	100	100
1	3	306	MJVE 900 1100	1155.76	3647.20	474.00	3128.00	0.0	0.0	-2.1	-6.6	0.0	100	100
1	3	307	MJVE 900 1100	801.59	3838.69	201.00	3240.00	0.0	0.0	-3.2	-10.5	0.0	100	100
1	3	308	MJVE 900 1100	595.22	3854.81	55.00	3211.00	0.0	0.0	-2.7	-10.6	0.0	100	100
1	3	309	MJVE 900 1100	1286.87	3653.91	564.00	3184.00	0.0	0.0	-2.2	-7.8	0.0	100	100
1	3	310	MJVE 900 1100	1316.05	3566.69	597.00	3084.00	0.0	0.0	-2.1	-5.4	0.0	100	100
1	3	311	MJVE 900 1100	1402.44	3699.29	638.00	3233.00	0.0	0.0	-2.9	-10.2	0.0	100	100
1	3	312	MJVE 900 1100	1551.62	3695.25	742.00	3204.00	0.0	0.0	-3.0	-11.7	0.0	100	100
1	3	313	MJVE 900 1100	1706.41	3605.79	862.00	3209.00	0.0	0.0	-2.6	-10.5	0.0	100	100
1	3	314	MJVE 900 1100	1588.27	3534.95	790.00	3172.00	0.0	0.0	-2.7	-6.6	0.0	100	100
1	3	315	MJVE 900 1100	1764.42	3569.43	906.00	3169.00	0.0	0.0	-2.3	-9.7	0.0	100	100
1	3	316	MJVE 900 1100	1901.75	3534.50	1008.00	3161.00	0.0	0.0	-2.5	-10.0	0.0	100	100
1	3	317	MJVE 900 1100	2026.69	3413.37	1112.00	3086.00	0.0	0.0	-2.5	-7.5	0.0	100	100
1	3	318	MJVE 900 1100	2101.67	3554.12	1144.00	3249.00	0.0	0.0	-2.5	-13.0	0.0	100	100
1	3	319	MJVE 900 1100	2197.38	3508.27	1217.00	3226.00	0.0	0.0	-3.4	-12.1	0.0	100	100
1	3	320	MJVE 900 1100	2161.70	3381.97	1210.00	3086.00	0.0	0.0	-2.2	-7.4	0.0	100	100
1	3	321	MJVE 900 1100	2383.39	3481.13	1350.00	3234.00	0.0	0.0	-3.7	-13.1	0.0	100	100
1	3	322	MJVE 900 1100	2574.29	3285.60	1510.00	3081.00	0.0	0.0	-2.3	-8.5	0.0	100	100
1	3	323	MJVE 900 1100	2556.25	3370.52	1485.00	3162.00	0.0	0.0	-2.3	-11.6	0.0	100	100
1	3	324	MJVE 900 1100	2636.33	3432.96	1532.00	3242.00	0.0	0.0	-3.3	-14.5	0.0	100	100
1	3	326	MJVE 900 1100	2681.94	3306.90	1581.00	3124.00	0.0	0.0	-2.1	-10.6	0.0	100	100
1	3	327	MJVE 900 1100	2389.19	3351.10	1372.00	3166.00	0.0	0.0	-2.2	-9.4	0.0	100	100
1	3	328	MJVE 900 1100	2609.40	3412.20	1516.00	3219.00	0.0	0.0	-2.7	-13.2	0.0	100	100
1	3	329	MJVE 900 1100	2910.52	3298.25	1741.00	3168.00	0.0	0.0	-2.1	-12.1	0.0	100	100
1	3	396	MJVE 900 1100	3006.94	3334.11	1803.00	3229.00	0.0	0.0	-2.6	-13.8	0.0	100	100
1	3	333	MJVE 900 1100	2865.35	3257.05	1716.00	3117.00	0.0	0.0	-2.5	-10.4	0.0	100	100
1	3	334	MJVE 900 1100	3003.88	3057.64	1840.00	2950.00	0.0	0.0	-0.7	-5.8	0.0	100	100
1	3	335	MJVE 900 1100	2977.66	3152.20	1808.00	3038.00	0.0	0.0	-0.8	-8.5	0.0	100	100
1	3	336	MJVE 900 1100	2976.79	3032.27	1825.00	2919.00	0.0	0.0	-0.9	-5.0	0.0	100	100
1	3	337	MJVE 900 1100	3055.82	2802.15	1912.00	2709.00	0.0	0.0	1.1	0.1	0.0	100	100
1	3	338	MJVE 900 1100	2995.84	2743.41	1879.00	2638.00	0.0	0.0	1.0	1.7	0.0	100	100
1	3	339	MJVE 900 1100	2929.92	2694.71	1840.00	2578.00	0.0	0.0	1.3	2.6	0.0	100	100
1	3	340	MJVE 900 1100	2934.00	2850.42	1821.00	2730.00	0.0	0.0	0.2	-0.5	0.0	100	100
1	3	341	MJVE 900 1100	3002.85	2798.59	1876.00	2694.00	0.0	0.0	0.7	0.4	0.0	100	100
1	3	342	MJVE 900 1100	2626.85	2582.35	1646.00	2482.00	0.0	0.0	0.6	2.2	0.0	100	100
1	3	343	MJVE 900 1100	2768.19	2549.83	1749.00	2481.00	0.0	0.0	0.5	3.8	0.0	100	100
1	3	344	MJVE 900 1100	2905.96	2524.99	1848.00	2486.00	0.0	0.0	1.0	4.5	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
1	3	345	MJVE	900	1100	2765.60	2450.50	1761.00	2304.00	0.0	0.0	1.2	4.6	0.0	100	100
1	3	346	MJVE	900	1100	2763.86	2504.93	1752.00	2356.00	0.0	0.0	1.3	4.6	0.0	100	100
1	3	347	MJVE	900	1100	2640.40	2234.61	1705.00	2076.00	0.0	0.0	0.4	1.8	0.0	100	100
1	3	348	MJVE	900	1100	2859.23	2236.34	1856.00	2149.00	0.0	0.0	1.8	4.0	0.0	100	100
1	3	349	MJVE	900	1100	2604.21	2311.18	1669.00	2139.00	0.0	0.0	0.5	2.4	0.0	100	100
1	3	350	MJVE	900	1100	2701.27	2126.12	1762.00	1981.00	0.0	0.0	1.2	0.7	0.0	100	100
1	3	351	MJVE	900	1100	2584.04	2000.52	1699.00	1857.00	0.0	0.0	-0.6	-4.6	0.0	100	100
1	3	352	MJVE	900	1100	2904.55	1934.67	1930.00	1844.00	0.0	0.0	1.4	-1.2	0.0	100	100
1	3	353	MJVE	900	1100	2726.25	1890.10	1813.00	1769.00	0.0	0.0	0.1	-4.0	0.0	100	100
1	3	355	MJVE	900	1100	2293.46	1990.57	1499.00	1767.00	0.0	0.0	-1.1	-6.7	0.0	100	100
1	3	356	MJVE	900	1100	2065.33	2081.89	1328.00	1865.00	0.0	0.0	-1.1	-5.6	0.0	100	100
1	3	357	MJVE	900	1100	2010.98	2066.71	1295.00	1850.00	0.0	0.0	-0.9	-5.8	0.0	100	100
1	3	358	MJVE	900	1100	1904.42	2161.33	1205.00	1940.00	0.0	0.0	-0.9	-4.8	0.0	100	100
1	3	359	MJVE	900	1100	1584.50	2146.22	985.00	1700.00	0.0	0.0	-1.4	-6.9	0.0	100	100
1	3	360	MJVE	900	1100	1350.74	2256.60	807.00	1824.00	0.0	0.0	-1.6	-5.9	0.0	100	100
1	3	361	MJVE	900	1100	1102.96	2311.74	627.00	1862.00	0.0	0.0	-2.4	-6.6	0.0	100	100
1	3	362	MJVE	900	1100	853.73	2404.12	440.00	1897.00	0.0	0.0	-2.0	-6.3	0.0	100	100
1	3	363	MJVE	900	1100	902.35	2653.10	439.00	2101.00	0.0	0.0	-0.7	-0.9	0.0	100	100
1	3	364	MJVE	900	1100	813.18	2744.78	364.00	2170.00	0.0	0.0	-0.7	-0.5	0.0	100	100
1	3	365	MJVE	900	1100	849.99	2813.55	380.00	2225.00	0.0	0.0	-0.6	1.2	0.0	100	100
1	3	366	MJVE	900	1100	1186.00	2663.19	634.00	2179.00	0.0	0.0	-0.2	1.3	0.0	100	100
1	3	367	MJVE	900	1100	906.14	3192.01	365.30	2624.00	0.0	0.0	-0.1	2.2	0.0	100	100
1	3	368	MJVE	900	1100	791.79	3641.55	222.00	3042.00	0.0	0.0	-1.7	-4.5	0.0	100	100
1	3	369	MJVE	900	1100	724.16	3606.72	180.00	2993.00	0.0	0.0	-1.5	-3.6	0.0	100	100
1	3	370	MJVE	900	1100	995.51	3615.59	367.00	3001.00	0.0	0.0	-1.4	-4.6	0.0	100	100
1	3	371	MJVE	900	1100	1087.99	3532.98	443.00	3001.00	0.0	0.0	-1.3	-4.2	0.0	100	100
1	4	2	MJVE	900	1100	2668.01	2015.92	1755.46	1808.07	33.8	37.0	-0.2	-0.1	-3.2	100	100
1	4	3	MJVE	900	1100	2684.85	2111.42	1753.37	1982.92	30.9	32.9	0.3	1.3	-2.0	100	100
1	4	4	MJVE	900	1100	2702.04	2207.21	1751.68	2056.51	32.0	32.8	0.7	3.5	-0.9	100	100
1	4	5	MJVE	900	1100	2719.49	2302.58	1750.46	2130.67	28.7	29.1	0.7	5.2	-0.5	100	100
1	4	6	MJVE	900	1100	2736.69	2393.95	1748.60	2246.65	28.9	29.8	1.0	6.0	-0.8	100	100
1	4	7	MJVE	900	1100	2754.12	2496.80	1746.65	2344.46	27.8	28.2	1.2	6.3	1.6	100	100
1	4	8	MJVE	900	1100	2771.85	2593.96	1745.30	2441.75	31.7	32.5	1.0	6.3	-0.8	100	100
1	4	9	MJVE	900	1100	2789.29	2695.90	1742.23	2547.06	35.4	37.4	1.2	2.4	-2.1	100	100
1	4	32	MJVE	900	1100	3559.85	2888.08	2250.50	2906.56	32.3	36.0	-1.0	-5.7	-3.8	100	100
1	4	34	MJVE	900	1100	3521.28	2700.07	2250.50	2712.50	34.0	36.4	-0.1	-1.1	-2.4	100	100
1	4	35	MJVE	900	1100	3502.09	2606.24	2250.50	2618.50	27.1	27.9	0.2	0.4	-0.8	100	100
1	4	36	MJVE	900	1100	3484.16	2512.05	2250.50	2519.50	34.1	39.3	2.0	2.6	-5.2	100	100
1	4	37	MJVE	900	1100	3463.03	2416.10	2250.50	2422.50	38.3	41.6	0.7	3.2	-4.9	100	100
1	4	44	MJVE	900	1100	3324.10	1736.65	2250.50	1743.50	39.5	39.4	-0.1	-2.4	0.1	100	100
1	4	304	MJVE	900	1100	2830.59	1848.82	1892.30	1747.00	0.0	0.0	-0.5	-2.2	0.0	100	100
1	4	306	MJVE	900	1100	3413.79	1771.70	2308.00	1757.00	0.0	0.0	-0.1	-0.9	0.0	100	100
1	4	307	MJVE	900	1100	3243.82	1761.95	2191.00	1752.00	0.0	0.0	0.2	-1.9	0.0	100	100
1	4	309	MJVE	900	1100	3145.74	2063.52	2080.30	2015.00	0.0	0.0	1.2	3.7	0.0	100	100
1	4	310	MJVE	900	1100	3245.16	2142.64	2138.00	2115.00	0.0	0.0	0.8	3.1	0.0	100	100
1	4	311	MJVE	900	1100	3500.68	2084.75	2324.00	2112.00	0.0	0.0	0.5	3.5	0.0	100	100
1	4	315	MJVE	900	1100	3360.99	2433.42	2177.00	2417.00	0.0	0.0	0.9	3.3	0.0	100	100
1	4	316	MJVE	900	1100	3442.72	2665.42	2201.00	2661.00	0.0	0.0	-0.1	0.1	0.0	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
1	4	317	MOVE	900	1100	3614.83	2593.89	2331.00	2629.00	0.0	0.0	-0.4	0.4	0.0	100	100
1	4	319	MOVE	900	1100	3273.90	2657.23	2085.00	2616.00	0.0	0.0	-0.1	0.9	0.0	100	100
1	4	320	MOVE	900	1100	3550.45	2876.00	2246.00	2892.00	0.0	0.0	-1.2	-4.8	0.0	100	100
1	4	321	MOVE	900	1100	3345.20	3053.45	2078.00	3062.00	0.0	0.0	-1.6	-8.2	0.0	100	100
1	4	324	MOVE	900	1100	3370.46	3217.93	2072.00	3191.00	0.0	0.0	-2.5	-13.3	0.0	100	100
1	4	327	MOVE	900	1100	2706.29	2881.04	1659.00	2707.00	0.0	0.0	-0.3	3.2	0.0	100	100
1	4	328	MOVE	900	1100	3008.90	2884.56	1869.00	2777.00	0.0	0.0	-0.5	1.8	0.0	100	100
1	4	329	MOVE	900	1100	2764.49	2517.82	1751.00	2567.00	0.0	0.0	1.0	6.3	0.0	100	100
1	4	330	MOVE	900	1100	2685.26	2615.53	1682.00	2744.00	0.0	0.0	1.0	5.5	0.0	100	100
1	4	331	MOVE	900	1100	2634.36	2499.83	1663.00	2621.00	0.0	0.0	1.2	5.4	0.0	100	100
1	4	332	MOVE	900	1100	2581.67	2143.19	1678.00	1966.00	0.0	0.0	-0.2	1.1	0.0	100	100
1	1	1	MOVE	3700	400	21.16	843.57	100.50	200.50	50.1	49.6	-0.6	-7.3	0.5	100	100
1	1	2	MOVE	3700	400	41.16	940.87	100.50	298.50	49.9	49.8	-0.8	-6.8	0.1	100	100
1	1	3	MOVE	3700	400	60.95	1037.25	100.50	396.50	+1.1	41.1	-0.7	-5.9	0.0	100	100
1	1	4	MOVE	3700	400	80.92	1134.73	100.50	495.50	+7.1	47.0	-0.6	-5.2	0.1	100	100
1	1	5	MOVE	3700	400	100.83	1231.88	100.50	593.50	+9.9	50.0	-0.5	-5.0	0.1	100	100
1	1	6	MOVE	3700	400	120.71	1328.93	100.50	691.50	35.8	35.7	-0.5	-4.8	0.1	100	100
1	1	7	MOVE	3700	400	140.82	1427.01	100.50	790.50	42.0	42.0	-0.5	-4.5	0.1	100	100
1	1	8	MOVE	3700	400	160.71	1524.09	100.50	888.50	37.5	37.4	-0.5	-4.4	0.1	100	100
1	1	9	MOVE	3700	400	180.83	1622.26	100.50	987.50	40.3	39.9	-0.5	-4.3	0.4	100	100
1	1	10	MOVE	3700	400	200.76	1719.47	100.50	1085.50	+1.7	40.8	-0.5	-4.2	0.9	100	100
1	1	11	MOVE	3700	400	220.71	1816.80	100.50	1183.50	40.5	40.6	-0.5	-4.0	0.1	100	100
1	1	12	MOVE	3700	400	240.88	1915.04	100.50	1282.50	34.7	33.6	-0.5	-3.9	1.0	100	100
1	1	13	MOVE	3700	400	260.85	2012.46	100.50	1380.50	+2.8	42.3	-0.4	-3.5	0.4	100	100
1	1	14	MOVE	3700	400	280.98	2110.57	100.50	1479.50	+3.0	45.2	-0.4	-3.1	0.2	100	100
1	1	15	MOVE	3700	400	300.98	2208.04	100.50	1577.50	+1.4	41.3	-0.2	-2.4	0.2	100	100
1	1	16	MOVE	3700	400	320.92	2305.20	100.50	1675.50	34.0	34.0	-0.1	-2.0	0.0	100	100
1	1	17	MOVE	3700	400	341.04	2403.34	100.50	1774.50	36.6	36.5	-0.1	-1.6	0.1	100	100
1	1	21	MOVE	3700	400	420.86	2792.53	100.50	2167.50	34.0	32.6	-0.1	-0.4	1.4	100	100
1	1	29	MOVE	3700	400	580.97	3572.92	100.50	2954.50	52.9	53.5	0.5	2.7	-0.6	100	100
1	1	30	MOVE	3700	400	601.17	3671.12	100.50	3053.50	37.0	36.8	0.4	2.9	0.2	100	100
1	1	31	MOVE	3700	400	621.16	3768.37	100.50	3151.50	33.8	33.7	0.3	3.0	0.1	100	100
1	1	32	MOVE	3700	400	641.36	3866.58	100.50	3250.50	30.8	30.9	0.3	3.2	-0.1	100	100
1	1	33	MOVE	3700	400	772.48	3827.92	197.50	3243.50	39.3	39.2	0.0	3.4	0.1	100	100
1	1	34	MOVE	3700	400	905.69	3793.04	295.50	3238.50	29.2	29.5	-0.3	3.8	-0.3	100	100
1	1	35	MOVE	3700	400	287.28	774.38	295.50	190.50	+8.0	48.1	-0.4	-7.5	1.1	100	100
1	1	36	MOVE	3700	400	153.53	809.18	197.50	195.50	33.5	33.8	-0.6	-7.3	-0.3	100	100
1	1	40	MOVE	3700	400	780.36	3680.69	223.51	3187.02	30.0	29.9	-0.2	3.4	0.1	100	100
1	1	42	MOVE	3700	400	740.80	3494.33	223.49	2913.10	29.7	29.5	-0.3	3.2	0.2	100	100
1	1	47	MOVE	3700	400	641.81	3015.15	222.49	2429.91	36.2	35.9	-0.8	1.2	0.3	100	100
1	1	48	MOVE	3700	400	622.29	2920.00	222.49	2333.94	36.4	36.4	-0.7	0.8	0.0	100	100
1	1	49	MOVE	3700	400	602.58	2823.66	222.50	2236.98	70.3	69.9	-0.6	0.4	0.4	100	100
1	1	50	MOVE	3700	400	582.84	2727.71	222.49	2139.99	31.2	31.0	-0.6	0.0	0.1	100	100
1	1	51	MOVE	3700	400	563.09	2631.34	222.51	2042.82	+0.3	43.2	-0.5	-0.2	0.0	100	100
1	1	54	MOVE	3700	400	503.86	2342.52	222.50	1754.76	52.3	52.6	-0.6	0.0	-0.4	100	100
1	1	55	MOVE	3700	400	484.13	2246.27	222.51	1658.79	+1.1	41.1	-0.5	-0.3	-0.1	100	100
1	1	56	MOVE	3700	400	464.37	2149.96	222.49	1562.72	39.6	39.4	-0.5	-0.5	-0.2	100	100
1	1	57	MOVE	3700	400	444.91	2053.04	222.49	1465.48	+0.4	40.5	0.4	-1.2	-0.1	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
2	1														
2	58	MJVE	3700	400	425.09	1954.36	222.50	1305.70	38.7	38.3	0.4	-1.0	0.4	100	100
2	59	MJVE	3700	400	405.40	1862.35	222.48	1209.43	40.9	40.9	0.3	-1.6	0.0	100	100
2	60	MJVE	3700	400	385.65	1765.92	222.49	1172.25	47.5	47.5	0.3	-1.7	-0.0	100	100
2	61	MJVE	3700	400	365.92	1669.63	222.50	1079.42	32.5	32.6	0.3	-1.8	-0.0	100	100
2	62	MJVE	3700	400	346.41	1574.39	222.50	979.24	35.7	35.6	0.3	-1.9	0.1	100	100
2	63	MJVE	3700	400	326.68	1478.07	222.49	882.55	43.4	43.2	0.3	-1.8	0.2	100	100
2	64	MJVE	3700	400	306.95	1381.68	222.49	785.54	47.4	47.5	0.3	-1.7	-0.1	100	100
2	65	MJVE	3700	400	287.37	1285.94	222.51	688.50	43.5	43.3	0.2	-2.3	0.1	100	100
2	66	MJVE	3700	400	266.11	1191.89	222.50	592.59	37.4	37.4	-0.1	-3.5	0.0	100	100
2	67	MJVE	3700	400	248.61	1096.87	222.49	495.59	48.7	48.4	-0.3	-4.8	0.3	100	100
2	68	MJVE	3700	400	229.09	1001.79	222.51	398.59	43.5	43.1	-0.5	-6.0	0.4	100	100
2	69	MJVE	3700	400	209.49	906.46	222.51	301.62	45.3	44.9	-0.6	-7.0	0.3	100	100
2	70	MJVE	3700	400	189.98	811.57	222.51	205.62	41.9	41.4	-0.6	-7.4	0.5	100	100
2	71	MJVE	3700	400	56.05	845.48	124.51	209.62	45.0	45.1	-0.8	-7.1	-0.1	100	100
2	72	MJVE	3700	400	-77.62	880.45	26.52	214.60	48.9	48.8	-1.0	-7.0	0.1	100	100
2	2	FFIX	3700	400	171.13	1297.36	140.48	674.63	24.1*******		0.0	0.0**********		100	100
2	3	FFIX	3700	400	1831.69	1073.16	1331.85	821.63	21.5*******		0.0	0.0**********		100	100
2	4	FFIX	3700	400	1916.05	548.64	1406.48	323.13	19.0*******		0.0	0.0**********		100	100
2	5	FFIX	3700	400	2527.06	542.86	1693.49	456.54	25.4*******		0.0	0.0**********		100	100
2	9	FFIX	3700	400	741.29	2014.92	434.93	1488.44	24.5*******		0.0	0.0**********		100	100
2	10	FFIX	3700	400	2060.96	1860.27	1376.36	1022.53	28.4*******		0.0	0.0**********		100	100
2	11	FFIX	3700	400	2483.84	1656.03	1700.07	1519.40	25.6*******		0.0	0.0**********		100	100
2	12	FFIX	3700	400	1635.70	2593.15	974.47	2235.76	20.8*******		0.0	0.0**********		100	100
2	13	FFIX	3700	400	1768.73	3185.22	983.39	2839.43	23.0*******		0.0	0.0**********		100	100
2	14	FFIX	3700	400	881.30	3453.14	327.18	2907.17	24.6*******		0.0	0.0**********		100	100
2	15	FFIX	3700	400	2947.56	2788.54	1861.73	2713.56	21.3*******		0.0	0.0**********		100	100
2	17	FFIX	3700	400	1265.31	2825.99	683.48	2370.19	21.3*******		0.0	0.0**********		100	100
2	18	FFIX	3700	400	-29.62	995.10	43.81	328.74	34.0*******		0.0	0.0**********		100	100
2	20	FFIX	3700	400	2344.96	2654.85	1459.83	2440.29	35.2*******		0.0	0.0**********		100	100
2	22	FFIX	3700	400	930.05	642.74	768.42	194.72	34.5*******		0.0	0.0**********		100	100
2	23	FFIX	3700	400	597.19	1375.51	425.70	842.97	28.9*******		0.0	0.0**********		100	100
2	24	FFIX	3700	400	823.70	2695.10	394.17	2154.80	35.8*******		0.0	0.0**********		100	100
2	25	FFIX	3700	400	1938.79	2560.39	1190.42	2266.11	34.1*******		0.0	0.0**********		100	100
4	9	MJVE	3700	400	2914.49	2651.99	1858.97	2372.44	29.3	28.2	-1.1	3.3	-2.9	100	100
4	10	MJVE	3700	400	2896.70	2555.25	1860.48	2474.43	27.6	30.5	-0.1	3.1	-2.9	100	100
4	11	MJVE	3700	400	2876.61	2459.13	1861.26	2377.40	28.1	28.1	-0.7	3.4	-2.0	100	100
4	12	MJVE	3700	400	2860.91	2363.17	1862.47	2280.80	28.3	29.6	-1.2	3.5	-3.3	100	100
4	13	MJVE	3700	400	2844.18	2269.24	1864.46	2187.23	24.5	27.5	-0.9	2.6	-3.0	100	100
4	14	MJVE	3700	400	2827.21	2174.43	1866.37	2093.40	28.0	28.5	-0.7	1.6	-2.5	100	100
4	15	MJVE	3700	400	2810.29	2080.16	1868.19	2000.43	28.9	32.2	-0.4	-0.0	-3.4	100	100
4	16	MJVE	3700	400	2793.17	1986.40	1869.57	1908.32	27.3	29.7	-0.4	-2.1	-2.7	100	100
4	17	MJVE	3700	400	2776.80	1894.10	1871.32	1818.25	27.2	29.7	-0.1	-4.6	-2.5	100	100
4	18	MJVE	3700	400	2643.35	1920.64	1773.05	1820.29	27.6	30.3	-0.4	-4.9	-2.7	100	100
4	19	MJVE	3700	400	2509.82	1960.59	1674.45	1823.48	30.9	34.3	-0.2	-5.4	-3.4	100	100
4	20	MJVE	3700	400	2376.34	1993.70	1576.47	1825.51	30.7	35.7	-0.2	-5.8	-4.9	100	100
4	21	MJVE	3700	400	2244.39	2027.80	1479.38	1829.30	30.2	32.9	-0.2	-6.4	-2.8	100	100
4	22	MJVE	3700	400	2110.78	2060.60	1381.37	1831.30	31.3	34.0	-0.0	-6.4	-2.7	100	100
4	23	MJVE	3700	400	1977.19	2094.27	1283.29	1834.29	33.9	35.8	0.3	-6.3	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SET	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TC Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
2	4	25	MJVE	3700	400	1843.37	2126.91	1185.26	1830.29	29.4	31.0	0.7	-6.2	-1.6	100	100
2	4	24	MJVE	3700	400	1711.32	2160.14	1088.47	1859.52	33.2	36.9	0.8	-5.9	-3.7	100	100
2	4	23	MJVE	3700	400	1577.74	2192.51	990.75	1841.49	34.8	38.8	0.9	-5.5	-4.0	100	100
2	4	26	MJVE	3700	400	1444.49	2223.85	893.23	1844.44	29.7	31.8	0.9	-5.1	-2.1	100	100
2	4	27	MJVE	3700	400	1312.53	2259.01	796.57	1847.82	32.2	33.0	0.9	-4.8	-0.8	100	100
2	4	28	MJVE	3700	400	1179.23	2291.37	699.23	1849.82	28.1	31.3	0.8	-4.4	-3.2	100	100
2	4	29	MJVE	3700	400	1044.37	2324.12	599.55	1850.82	30.6	36.8	2.4	-3.4	-6.2	100	100
2	4	30	MJVE	3700	400	912.93	2357.76	504.33	1855.71	29.4	31.4	0.5	-4.2	-2.0	100	100
2	4	31	MJVE	3700	400	780.32	2388.98	407.64	1858.61	41.1	40.7	1.0	-2.0	0.3	100	100
2	4	34	MJVE	3700	400	514.35	2455.72	213.54	1865.24	36.8	38.3	0.3	-2.2	-1.6	100	100
2	4	33	MJVE	3700	400	249.64	2522.82	19.63	1871.57	34.9	37.1	-0.4	-3.0	-2.2	100	100
2	4	37	MJVE	3700	400	360.25	2497.44	100.50	1872.50	31.2	30.6	-0.8	-4.3	0.6	100	100
2	4	38	MJVE	3700	400	381.28	2593.42	100.50	1970.50	37.2	38.5	0.4	-0.1	-1.3	100	100
2	4	39	MJVE	3700	400	401.79	2698.77	100.50	2069.50	27.8	29.0	0.9	2.6	-1.2	100	100
2	4	41	MJVE	3700	400	441.80	2695.34	100.50	2268.50	37.0	50.4	0.9	4.6	-13.5	100	100
2	4	42	MJVE	3700	400	462.23	2992.54	100.50	2364.50	38.0	44.3	1.5	5.1	-6.4	100	100
2	4	43	MJVE	3700	400	481.60	3089.30	100.50	2462.50	35.8	36.2	1.0	5.1	-0.4	100	100
2	4	44	MJVE	3700	400	501.72	3186.57	100.50	2561.50	34.8	35.5	1.0	4.6	-0.8	100	100
2	4	45	MJVE	3700	400	521.52	3282.56	100.50	2659.50	29.0	30.1	1.0	3.9	-1.1	100	100
2	4	46	MJVE	3700	400	541.22	3378.95	100.50	2758.50	35.5	38.1	0.6	2.5	-2.6	100	100
2	4	47	MJVE	3700	400	560.64	3474.11	100.50	2856.50	33.3	35.3	0.1	0.9	-2.0	100	100
2	4	301	MJVE	3700	400	812.82	2342.39	437.00	1821.00	0.0	0.0	0.4	3.8	0.0	100	100
2	4	302	MJVE	3700	400	764.77	2401.74	396.00	1869.00	0.0	0.0	-0.4	2.4	0.0	100	100
2	4	303	MJVE	3700	400	784.70	2406.62	408.00	1878.00	0.0	0.0	1.0	1.5	0.0	100	100
2	4	304	MJVE	3700	400	622.57	2469.00	287.00	1901.00	0.0	0.0	-0.7	0.3	0.0	100	100
2	4	305	MJVE	3700	400	480.07	2413.66	195.00	1823.00	0.0	0.0	-0.0	0.3	0.0	100	100
2	4	306	MJVE	3700	400	480.71	2581.91	172.00	1970.00	0.0	0.0	0.8	0.4	0.0	100	100
2	4	307	MJVE	3700	400	824.00	2400.15	428.00	1934.00	0.0	0.0	-0.9	-0.9	0.0	100	100
2	4	308	MJVE	3700	400	327.07	2562.34	88.00	1925.00	0.0	0.0	-0.0	-1.3	0.0	100	100
2	4	309	MJVE	3700	400	317.86	2700.27	42.00	2033.00	0.0	0.0	0.4	2.3	0.0	100	100
2	4	310	MJVE	3700	400	517.79	2673.32	184.00	2075.00	0.0	0.0	1.4	2.6	0.0	100	100
2	4	311	MJVE	3700	400	843.24	2701.03	407.00	2169.00	0.0	0.0	0.5	1.6	0.0	100	100
2	4	312	MJVE	3700	400	645.27	2650.52	277.00	2077.00	0.0	0.0	1.2	3.1	0.0	100	100
2	4	313	MJVE	3700	400	506.61	2773.04	163.00	2163.00	0.0	0.0	1.1	3.8	0.0	100	100
2	4	314	MJVE	3700	400	401.09	2881.81	74.00	2245.00	0.0	0.0	0.9	4.1	0.0	100	100
2	4	315	MJVE	3700	400	874.00	2794.94	415.00	2201.00	0.0	0.0	0.6	1.1	0.0	100	100
2	4	316	MJVE	3700	400	793.88	2690.23	374.00	2145.00	0.0	0.0	1.7	2.7	0.0	100	100
2	4	317	MJVE	3700	400	385.46	2833.58	70.00	2199.00	0.0	0.0	0.9	4.0	0.0	100	100
2	4	318	MJVE	3700	400	349.79	2769.91	54.00	2126.00	0.0	0.0	1.1	3.5	0.0	100	100
2	4	319	MJVE	3700	400	449.67	2699.04	134.00	2080.00	0.0	0.0	0.7	2.8	0.0	100	100
2	4	320	MJVE	3700	400	418.95	3015.68	67.00	2377.00	0.0	0.0	1.6	5.5	0.0	100	100
2	4	321	MJVE	3700	400	407.44	2981.73	64.00	2342.00	0.0	0.0	1.3	5.2	0.0	100	100
2	4	322	MJVE	3700	400	444.44	3133.45	68.00	2497.00	0.0	0.0	1.4	5.1	0.0	100	100
2	4	323	MJVE	3700	400	554.12	3017.44	161.00	2409.00	0.0	0.0	1.5	4.8	0.0	100	100
2	4	324	MJVE	3700	400	937.69	2917.04	442.00	2393.00	0.0	0.0	0.9	2.0	0.0	100	100
2	4	325	MJVE	3700	400	811.60	2934.28	322.00	2304.00	0.0	0.0	1.3	3.8	0.0	100	100
2	4	326	MJVE	3700	400	702.89	3015.90	265.00	2440.00	0.0	0.0	1.6	5.3	0.0	100	100
2	4	327	MJVE	3700	400	540.99	3131.01	136.00	2516.00	0.0	0.0	0.9	5.0	0.0	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME EPR LINE	INTERFRAME EPR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
4	326	MJVE	3700	400	465.26	3526.98	55.00	2650.00	0.0	0.0	0.9	4.1	0.0	100	100
4	330	MJVE	3700	400	649.50	3413.36	171.00	2816.00	0.0	0.0	0.6	1.9	0.0	100	100
4	332	MJVE	3700	400	679.49	3339.36	203.00	2750.00	0.0	0.0	0.2	3.0	0.0	100	100
4	333	MJVE	3700	400	842.64	3245.41	350.00	2694.00	0.0	0.0	0.5	3.7	0.0	100	100
4	334	MJVE	3700	400	988.26	3162.85	443.00	2644.00	0.0	0.0	0.1	2.3	0.0	100	100
4	335	MJVE	3700	400	624.40	3284.57	172.00	2688.00	0.0	0.0	0.5	3.8	0.0	100	100
4	336	MJVE	3700	400	752.18	3294.56	260.00	2722.00	0.0	0.0	0.5	3.6	0.0	100	100
4	337	MJVE	3700	400	507.49	3442.58	68.00	2814.00	0.0	0.0	0.2	1.3	0.0	100	100
4	338	MJVE	3700	400	528.73	3677.76	49.00	3050.00	0.0	0.0	-0.7	-3.0	0.0	100	100
4	339	MJVE	3700	400	857.94	3675.02	479.00	3124.00	0.0	0.0	-1.4	-4.9	0.0	100	100
4	341	MJVE	3700	400	1019.78	3512.94	415.00	2997.00	0.0	0.0	-0.5	-2.3	0.0	100	100
4	342	MJVE	3700	400	817.89	3517.02	274.00	2956.00	0.0	0.0	-0.6	-1.0	0.0	100	100
4	343	MJVE	3700	400	694.35	3671.53	136.00	3082.00	0.0	0.0	-1.8	-10.1	0.0	100	100
4	344	MJVE	3700	400	560.07	3857.84	45.00	3236.00	0.0	0.0	-2.0	-8.4	0.0	100	100
4	346	MJVE	3700	400	800.12	3874.89	210.00	3307.00	0.0	0.0	-2.5	-10.8	0.0	100	100
4	347	MJVE	3700	400	1110.32	3825.05	433.00	3269.00	0.0	0.0	-2.7	-12.6	0.0	100	100
4	348	MJVE	3700	400	1006.52	3776.48	368.00	3230.00	0.0	0.0	-2.3	-9.8	0.0	100	100
4	349	MJVE	3700	400	1221.05	3778.61	517.00	3306.00	0.0	0.0	-2.6	-11.5	0.0	100	100
4	350	MJVE	3700	400	1177.13	3713.28	496.00	3228.00	0.0	0.0	-1.7	-9.0	0.0	100	100
4	351	MJVE	3700	400	1343.76	3628.79	624.00	3182.00	0.0	0.0	-1.5	-7.8	0.0	100	100
4	352	MJVE	3700	400	1333.60	3566.70	626.00	3140.00	0.0	0.0	-1.7	-5.8	0.0	100	100
4	353	MJVE	3700	400	1511.90	3581.37	748.00	3173.00	0.0	0.0	-1.8	-7.3	0.0	100	100
4	354	MJVE	3700	400	1456.85	3631.79	702.00	3210.00	0.0	0.0	-1.9	-9.6	0.0	100	100
4	355	MJVE	3700	400	1586.35	3572.91	801.00	3183.00	0.0	0.0	-1.8	-8.5	0.0	100	100
4	356	MJVE	3700	400	1723.40	3483.61	909.00	3129.00	0.0	0.0	-1.6	-7.3	0.0	100	100
4	357	MJVE	3700	400	1818.45	3512.81	971.00	3175.00	0.0	0.0	-1.9	-8.6	0.0	100	100
4	358	MJVE	3700	400	2013.92	3513.40	1106.00	3229.00	0.0	0.0	-1.9	-10.8	0.0	100	100
4	359	MJVE	3700	400	2167.39	3467.94	1218.00	3230.00	0.0	0.0	-3.0	-11.5	0.0	100	100
4	360	MJVE	3700	400	2116.47	3431.60	1190.00	3182.00	0.0	0.0	-1.6	-9.2	0.0	100	100
4	361	MJVE	3700	400	1668.74	3613.52	851.00	3247.00	0.0	0.0	-1.6	-11.0	0.0	100	100
4	362	MJVE	3700	400	2314.25	3382.60	1335.00	3158.00	0.0	0.0	-1.9	-9.3	0.0	100	100
4	363	MJVE	3700	400	2388.23	3353.61	1390.00	3151.00	0.0	0.0	-1.9	-9.3	0.0	100	100
4	364	MJVE	3700	400	2423.44	3433.44	1404.00	3234.00	0.0	0.0	-2.9	-12.4	0.0	100	100
4	365	MJVE	3700	400	2549.66	3313.40	1509.00	3145.00	0.0	0.0	-2.0	-9.8	0.0	100	100
4	366	MJVE	3700	400	2569.27	3361.28	1513.00	3215.00	0.0	0.0	-2.6	-12.0	0.0	100	100
4	367	MJVE	3700	400	2636.23	3231.19	1583.00	3081.00	0.0	0.0	-2.3	-7.6	0.0	100	100
4	368	MJVE	3700	400	2707.11	3177.79	1638.00	3045.00	0.0	0.0	-1.4	-6.3	0.0	100	100
4	369	MJVE	3700	400	2777.65	3362.02	1661.00	3243.00	0.0	0.0	-3.0	-13.1	0.0	100	100
4	370	MJVE	3700	400	2782.54	3136.28	1697.00	3019.00	0.0	0.0	-1.6	-5.8	0.0	100	100
4	371	MJVE	3700	400	2786.15	3193.36	1692.00	3082.00	0.0	0.0	-2.0	-7.7	0.0	100	100
4	372	MJVE	3700	400	2867.84	3180.80	1750.00	3082.00	0.0	0.0	-1.9	-7.3	0.0	100	100
4	373	MJVE	3700	400	2952.85	3297.93	1793.00	3219.00	0.0	0.0	-3.9	-12.6	0.0	100	100
4	374	MJVE	3700	400	3016.12	3062.66	1872.00	3000.00	0.0	0.0	-2.1	-6.4	0.0	100	100
4	375	MJVE	3700	400	2762.63	3089.25	1690.00	2988.00	0.0	0.0	-1.5	-4.5	0.0	100	100
4	376	MJVE	3700	400	3050.55	3301.36	1860.00	3244.00	0.0	0.0	-3.1	-14.2	0.0	100	100
4	377	MJVE	3700	400	2954.86	2991.23	1837.00	2921.00	0.0	0.0	-1.2	-3.4	0.0	100	100
4	378	MJVE	3700	400	2947.44	2930.78	1846.00	2823.00	0.0	0.0	-0.9	-1.0	0.0	100	100
4	379	MJVE	3700	400	2891.25	2969.16	1797.00	2870.00	0.0	0.0	-1.2	-2.3	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
2	4	379	MJVE	3700	400	2735.21	3025.69	1680.00	2899.00	0.0	0.0	-1.1	-2.8	0.0	100	100
2	4	380	MJVE	3700	400	3027.80	2872.80	1906.00	2814.00	0.0	0.0	-1.0	-1.5	0.0	100	100
2	4	381	MJVE	3700	400	2941.32	2780.32	1859.00	2704.00	0.0	0.0	-0.5	0.3	0.0	100	100
2	4	382	MJVE	3700	400	2716.64	2795.26	1700.00	2668.00	0.0	0.0	-0.3	0.7	0.0	100	100
2	4	383	MJVE	3700	400	2832.06	2556.18	1815.00	2481.00	0.0	0.0	0.0	3.0	0.0	100	100
2	4	384	MJVE	3700	400	2808.64	2589.76	1794.00	2488.00	0.0	0.0	-0.3	3.2	0.0	100	100
2	4	385	MJVE	3700	400	2747.48	2546.62	1757.00	2453.00	0.0	0.0	0.3	2.7	0.0	100	100
2	4	386	MJVE	3700	400	2802.34	2402.26	1816.00	2306.00	0.0	0.0	0.6	3.1	0.0	100	100
2	4	387	MJVE	3700	400	2745.11	2464.01	1767.00	2353.00	0.0	0.0	0.6	2.6	0.0	100	100
2	4	388	MJVE	3700	400	2599.82	2424.75	1671.00	2283.00	0.0	0.0	0.8	2.0	0.0	100	100
2	4	389	MJVE	3700	400	2678.20	2683.76	1689.00	2550.00	0.0	0.0	-0.0	1.7	0.0	100	100
2	4	390	MJVE	3700	400	2960.18	2462.98	1918.00	2399.00	0.0	0.0	0.2	3.4	0.0	100	100
2	4	391	MJVE	3700	400	2743.84	2163.51	1809.00	2067.00	0.0	0.0	0.6	0.9	0.0	100	100
2	4	392	MJVE	3700	400	2717.17	2086.30	1802.00	1986.00	0.0	0.0	0.1	-0.2	0.0	100	100
2	4	393	MJVE	3700	400	2701.68	1987.61	1805.00	1890.00	0.0	0.0	0.2	-2.9	0.0	100	100
2	4	394	MJVE	3700	400	2845.00	2014.86	1902.00	1940.00	0.0	0.0	0.1	-0.9	0.0	100	100
2	4	395	MJVE	3700	400	2867.75	2151.15	1898.00	2080.00	0.0	0.0	0.8	1.4	0.0	100	100
2	4	396	MJVE	3700	400	2566.76	2256.60	1672.00	2115.00	0.0	0.0	0.6	0.7	0.0	100	100
2	4	397	MJVE	3700	400	2535.30	2052.92	1678.00	1915.00	0.0	0.0	-0.2	-2.7	0.0	100	100
2	4	398	MJVE	3700	400	2570.54	2101.89	1697.00	1969.00	0.0	0.0	0.0	-1.2	0.0	100	100
2	4	399	MJVE	3700	400	2839.16	1843.35	1923.00	1701.00	0.0	0.0	-0.6	-5.5	0.0	100	100
2	4	400	MJVE	3700	400	2533.87	1922.18	1697.00	1793.00	0.0	0.0	-0.8	-6.4	0.0	100	100
2	4	401	MJVE	3700	400	1951.75	2043.37	1273.00	1781.00	0.0	0.0	-0.0	-7.6	0.0	100	100
2	4	402	MJVE	3700	400	1911.32	2237.87	1221.00	1926.00	0.0	0.0	1.0	-3.8	0.0	100	100
2	4	403	MJVE	3700	400	1645.71	2201.47	1037.00	1864.00	0.0	0.0	0.8	-5.0	0.0	100	100
2	4	404	MJVE	3700	400	1528.08	2230.07	950.00	1872.00	0.0	0.0	0.9	-5.1	0.0	100	100
2	4	405	MJVE	3700	400	1305.17	2388.13	773.00	1967.00	0.0	0.0	1.3	-2.6	0.0	100	100
3	1	19	MJVE	700	2900	609.79	824.27	478.48	330.41	38.6	32.7	1.3	4.5	5.9	100	100
3	1	20	MJVE	700	2900	630.34	924.61	480.31	434.14	35.4	31.2	0.9	2.3	4.1	100	100
3	1	21	MJVE	700	2900	650.61	1022.99	482.38	535.24	32.0	31.2	0.3	0.6	0.8	100	100
3	1	22	MJVE	700	2900	670.32	1121.47	483.58	636.76	35.3	31.0	0.3	-0.9	4.3	100	100
3	1	24	MJVE	700	2900	710.28	1315.28	487.66	833.03	29.6	28.2	-0.5	-2.4	1.4	100	100
3	1	25	MJVE	700	2900	729.90	1412.05	489.35	933.51	29.8	27.0	-0.3	-2.1	2.8	100	100
3	1	26	MJVE	700	2900	749.01	1507.97	490.60	1030.48	31.6	29.5	0.1	-1.9	2.0	100	100
3	1	27	MJVE	700	2900	768.64	1604.32	492.46	1127.48	27.8	26.7	0.3	-1.2	1.1	100	100
3	1	28	MJVE	700	2900	788.07	1699.46	494.31	1222.67	30.7	32.1	0.5	0.2	4.6	100	100
3	1	30	MJVE	700	2900	826.84	1890.26	497.50	1410.31	39.8	34.6	1.7	4.7	5.2	100	100
3	1	75	MJVE	700	2900	3208.88	1243.01	2250.50	1201.50	38.2	34.9	0.4	5.3	3.3	100	100
3	1	76	MJVE	700	2900	3156.20	947.97	2250.50	970.50	26.2	28.0	-0.8	-1.8	-1.7	100	100
3	1	77	MJVE	700	2900	3138.90	851.97	2250.50	874.50	31.0	33.7	-1.2	-3.1	0.2	100	100
3	1	78	MJVE	700	2900	3121.53	756.35	2250.50	777.50	27.9	30.3	-1.5	-4.1	-2.4	100	100
3	1	79	MJVE	700	2900	3104.13	658.89	2250.50	680.50	32.0	31.5	-1.8	-4.9	0.6	100	100
3	1	80	MJVE	700	2900	3087.12	563.39	2250.50	583.50	38.6	35.0	-1.7	-4.7	3.5	100	100
3	1	81	MJVE	700	2900	3070.42	468.79	2250.50	487.50	40.7	37.6	-1.5	-4.6	3.1	100	100
3	1	82	MJVE	700	2900	3053.21	373.92	2250.50	390.50	28.3	30.1	-1.6	-3.4	-1.8	100	100
3	1	83	MJVE	700	2900	3036.32	279.30	2250.50	293.50	33.0	31.3	-1.2	-1.7	1.7	100	100
3	1	84	MJVE	700	2900	3019.45	184.63	2250.50	196.50	34.9	34.2	-0.8	-0.0	0.7	100	100
3	1	85	MJVE	700	2900	3000.96	90.74	2250.50	100.50	36.8	33.4	-2.3	1.4	2.6	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTER FRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
1	86	MJVE	700	2900	2869.25	125.44	2152.50	104.50	30.5	30.2	0.1	4.3	0.3	100	100
1	87	MJVE	700	2900	2736.17	159.77	2054.50	109.50	30.3	28.5	0.8	5.9	1.8	100	100
1	89	MJVE	700	2900	2470.65	225.50	1859.50	118.50	34.8	33.7	1.1	6.4	1.1	100	100
1	90	MJVE	700	2900	2337.08	257.38	1761.50	122.50	29.8	29.2	1.2	5.7	0.6	100	100
1	91	MJVE	700	2900	2203.38	290.84	1663.50	127.50	41.6	34.2	1.0	6.0	7.4	100	100
1	92	MJVE	700	2900	2069.82	322.96	1565.50	131.50	34.4	32.2	1.1	6.0	2.2	100	100
1	93	MJVE	700	2900	1937.81	355.72	1468.50	136.50	35.0	32.0	1.2	5.7	3.1	100	100
1	94	MJVE	700	2900	1803.89	387.79	1370.50	140.50	33.4	31.4	1.0	5.7	2.1	100	100
1	95	MJVE	700	2900	1670.41	419.99	1272.50	145.50	29.4	28.2	1.5	5.4	1.2	100	100
1	96	MJVE	700	2900	1537.78	452.66	1175.50	150.50	28.0	26.3	1.5	6.0	1.7	100	100
1	97	MJVE	700	2900	1403.68	484.61	1077.50	154.50	31.3	28.4	1.7	6.7	2.9	100	100
1	98	MJVE	700	2900	1270.30	516.77	979.50	159.50	31.9	30.5	2.3	6.7	1.4	100	100
1	99	MJVE	700	2900	1136.02	548.28	881.50	163.50	33.7	30.0	2.3	6.5	3.7	100	100
1	101	MJVE	700	2900	868.94	612.25	686.50	172.50	34.1	32.6	2.1	7.4	1.5	100	100
1	102	MJVE	700	2900	734.65	645.35	588.50	177.50	41.6	33.8	1.9	8.2	7.8	100	100
1	301	MJVE	700	2900	972.65	651.98	754.00	233.00	0.0	0.0	2.1	5.8	0.0	100	100
1	302	MJVE	700	2900	984.26	2086.98	583.00	1624.00	0.0	0.0	3.6	12.8	0.0	100	100
1	303	MJVE	700	2900	899.41	2100.37	522.00	1621.00	0.0	0.0	3.6	13.6	0.0	100	100
1	304	MJVE	700	2900	1000.60	1971.26	613.00	1560.00	0.0	0.0	2.7	8.4	0.0	100	100
1	305	MJVE	700	2900	1122.56	1929.16	700.00	1499.00	0.0	0.0	2.4	7.8	0.0	100	100
1	306	MJVE	700	2900	1355.76	1847.20	873.00	1471.00	0.0	0.0	2.1	6.6	0.0	100	100
1	307	MJVE	700	2900	1001.59	2033.69	601.00	1562.00	0.0	0.0	3.2	10.5	0.0	100	100
1	308	MJVE	700	2900	795.22	2054.81	455.00	1558.00	0.0	0.0	2.7	10.6	0.0	100	100
1	309	MJVE	700	2900	1486.87	1855.91	964.00	1502.00	0.0	0.0	2.2	7.8	0.0	100	100
1	310	MJVE	700	2900	1510.05	1760.69	995.00	1420.00	0.0	0.0	2.1	5.4	0.0	100	100
1	311	MJVE	700	2900	1602.44	1899.29	1039.00	1506.00	0.0	0.0	2.9	10.2	0.0	100	100
1	312	MJVE	700	2900	1751.62	1895.25	1144.00	1500.00	0.0	0.0	3.0	11.7	0.0	100	100
1	313	MJVE	700	2900	1906.41	1805.79	1264.00	1530.00	0.0	0.0	2.6	10.5	0.0	100	100
1	314	MJVE	700	2900	1788.27	1734.95	1190.00	1440.00	0.0	0.0	2.7	6.6	0.0	100	100
1	315	MJVE	700	2900	1962.42	1769.43	1308.00	1513.00	0.0	0.0	2.3	9.7	0.0	100	100
1	316	MJVE	700	2900	2101.75	1734.50	1410.00	1507.00	0.0	0.0	2.9	10.0	0.0	100	100
1	317	MJVE	700	2900	2220.69	1613.37	1513.00	1410.00	0.0	0.0	3.5	7.5	0.0	100	100
1	318	MJVE	700	2900	2301.67	1754.12	1548.00	1563.00	0.0	0.0	3.5	13.0	0.0	100	100
1	319	MJVE	700	2900	2397.38	1703.27	1621.00	1559.00	0.0	0.0	3.4	12.1	0.0	100	100
1	320	MJVE	700	2900	2361.70	1581.97	1612.00	1415.00	0.0	0.0	2.2	7.4	0.0	100	100
1	321	MJVE	700	2900	2583.39	1681.13	1755.00	1549.00	0.0	0.0	3.7	13.1	0.0	100	100
1	322	MJVE	700	2900	2774.29	1485.60	1914.00	1404.00	0.0	0.0	2.3	8.5	0.0	100	100
1	323	MJVE	700	2900	2756.25	1570.52	1891.00	1479.00	0.0	0.0	3.3	11.6	0.0	100	100
1	324	MJVE	700	2900	2836.33	1632.96	1939.00	1532.00	0.0	0.0	3.3	14.5	0.0	100	100
1	326	MJVE	700	2900	2881.94	1508.90	1987.00	1446.00	0.0	0.0	2.1	10.6	0.0	100	100
1	327	MJVE	700	2900	2589.19	1551.10	1776.00	1429.00	0.0	0.0	2.2	9.4	0.0	100	100
1	328	MJVE	700	2900	2809.40	1612.20	1923.00	1520.00	0.0	0.0	2.7	13.2	0.0	100	100
1	329	MJVE	700	2900	3110.52	1498.25	2149.00	1480.00	0.0	0.0	2.1	12.1	0.0	100	100
1	332	MJVE	700	2900	3206.94	1534.11	2212.00	1532.00	0.0	0.0	2.6	13.8	0.0	100	100
1	333	MJVE	700	2900	3065.35	1457.05	2122.00	1433.00	0.0	0.0	2.5	10.4	0.0	100	100
1	334	MJVE	700	2900	3203.88	1257.64	2245.00	1274.00	0.0	0.0	0.7	5.8	0.0	100	100
1	335	MJVE	700	2900	3177.66	1352.20	2215.00	1337.00	0.0	0.0	0.8	8.5	0.0	100	100
1	336	MJVE	700	2900	3176.79	1232.27	2229.00	1245.00	0.0	0.0	0.9	5.0	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
3	1	337	MJVE	700 2900	3255.82	1002.15	2314.00			-1.1	-0.1	0.0	100	100
1	1	338	MJVE	700 2900	3195.84	943.41	2279.00			-1.0	-1.7	0.0	100	100
1	1	339	MJVE	700 2900	3129.92	894.71	2239.00			-1.3	-2.6	0.0	100	100
1	1	340	MJVE	700 2900	3134.00	1050.42	2222.00			-1.2	0.5	0.0	100	100
1	1	341	MJVE	700 2900	3202.85	998.59	2277.00			-1.0	-0.4	0.0	100	100
1	1	342	MJVE	700 2900	2826.85	782.35	2040.00			-0.7	-2.2	0.0	100	100
1	1	343	MJVE	700 2900	2968.19	749.83	2143.00			-0.6	-3.8	0.0	100	100
1	1	344	MJVE	700 2900	3105.96	724.99	2243.00			-0.5	-4.5	0.0	100	100
1	1	345	MJVE	700 2900	2965.60	650.50	2154.00			-1.0	-4.6	0.0	100	100
1	1	346	MJVE	700 2900	2963.86	734.93	2146.00			-1.2	-1.8	0.0	100	100
1	1	347	MJVE	700 2900	2840.40	634.61	2093.00			-1.3	-4.0	0.0	100	100
1	1	348	MJVE	700 2900	3059.23	633.34	2247.00			-0.4	-2.4	0.0	100	100
1	1	349	MJVE	700 2900	2804.21	511.18	2058.00			-1.8	-0.7	0.0	100	100
1	1	350	MJVE	700 2900	2901.27	532.12	2150.00			-0.5	4.6	0.0	100	100
1	1	351	MJVE	700 2900	2784.04	209.52	2083.00			-1.2	1.2	0.0	100	100
1	1	352	MJVE	700 2900	3104.55	134.67	2317.00			-0.4	4.6	0.0	100	100
1	1	353	MJVE	700 2900	2926.25	90.10	2197.00			-1.4	5.6	0.0	100	100
1	1	354	MJVE	700 2900	2493.46	190.57	1880.00			-1.1	6.5	0.0	100	100
1	1	355	MJVE	700 2900	2265.33	281.89	1708.00			-1.1	5.8	0.0	100	100
1	1	356	MJVE	700 2900	2218.98	280.71	1675.00			-1.1	6.9	0.0	100	100
1	1	357	MJVE	700 2900	2104.42	361.33	1585.00			-1.1	5.9	0.0	100	100
1	1	358	MJVE	700 2900	1784.50	340.22	1382.00			-1.1	6.3	0.0	100	100
1	1	359	MJVE	700 2900	1550.74	456.60	1184.00			-1.4	6.9	0.0	100	100
1	1	360	MJVE	700 2900	1302.96	511.74	1003.00			-1.4	5.9	0.0	100	100
1	1	361	MJVE	700 2900	1053.73	607.12	817.00			-1.1	6.6	0.0	100	100
1	1	362	MJVE	700 2900	1102.35	853.10	820.00			-1.2	6.3	0.0	100	100
1	1	363	MJVE	700 2900	1013.18	944.78	746.00			-1.4	6.9	0.0	100	100
1	1	364	MJVE	700 2900	1049.99	1013.55	763.00			-1.6	5.9	0.0	100	100
1	1	365	MJVE	700 2900	1386.00	863.19	1017.00			-1.2	6.3	0.0	100	100
1	1	366	MJVE	700 2900	1100.14	1392.31	755.00			-1.4	6.9	0.0	100	100
1	1	367	MJVE	700 2900	991.79	1841.55	919.00			-1.7	5.9	0.0	100	100
1	1	368	MJVE	700 2900	924.16	1830.72	576.00			-1.5	6.3	0.0	100	100
1	1	369	MJVE	700 2900	1196.51	1819.59	765.00			-1.3	6.9	0.0	100	100
1	1	370	MJVE	700 2900	1287.99	1732.98	840.00			-1.4	5.9	0.0	100	100
1	1	371	MJVE	700 2900	2894.13	937.21	2087.72			-1.3	6.3	0.0	100	100
1	1	1	FFIA	700 2900	3153.29	1170.13	2217.05			-1.3	6.9	0.0	100	100
1	1	2	FFIA	700 2900	2250.22	657.42	1650.24			-1.3	5.9	0.0	100	100
1	1	3	FFIA	700 2900	2991.31	2919.80	1886.35			-1.3	6.3	0.0	100	100
1	1	4	FFIA	700 2900	1999.71	2424.40	1251.79			-1.3	6.9	0.0	100	100
1	1	5	FFIA	700 2900	343.00	1873.33	159.08			-1.3	5.9	0.0	100	100
1	1	6	FFIA	700 2900	3233.53	2489.43	2109.55			-1.3	6.3	0.0	100	100
1	1	7	FFIA	700 2900	2839.16	2037.19	1890.42			-1.3	6.9	0.0	100	100
1	1	8	FFIA	700 2900	2510.08	1543.56	1721.13			-1.3	5.9	0.0	100	100
1	1	9	FFIA	700 2900	2244.45	1134.82	1585.15			-1.3	6.3	0.0	100	100
1	1	10	FFIA	700 2900	2560.57	543.99	1882.97			-1.3	6.9	0.0	100	100
1	1	11	FFIA	700 2900	331.80	1209.77	236.13			-1.3	5.9	0.0	100	100
1	1	12	FFIA	700 2900	3276.21	1737.35	2238.09			-1.3	6.3	0.0	100	100
1	1	13	FFIA	700 2900	2793.84	484.73	2054.26			-1.3	6.9	0.0	100	100
1	1	14	FFIA	700 2900						-1.3	5.9	0.0	100	100
1	1	15	FFIA	700 2900						-1.3	6.3	0.0	100	100
1	1	16	FFIA	700 2900						-1.3	6.9	0.0	100	100
1	1	22	FFIA	700 2900						-1.3	5.9	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTER FRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
3	3	23	FIX	700	2900	1861.49	688.71	1373.05	449.75	24.8	*******	0.0	0.0	**********	100	100
3	3	24	FIX	700	2900	2925.98	2481.79	1895.10	2403.95	27.5	*******	0.0	0.0	**********	100	100
3	3	25	FIX	700	2900	1698.90	1515.82	1155.00	1225.84	22.9	*******	0.0	0.0	**********	100	100
4	4	1	MOVE	700	2900	2726.98	86.07	2054.51	39.46	32.8	31.1	4.1	1.7	1.7	100	100
4	4	2	MOVE	700	2900	2748.67	183.33	2060.49	138.50	31.3	31.5	-0.1	2.3	-0.3	100	100
4	4	3	MOVE	700	2900	2766.44	282.42	2060.50	238.53	30.0	30.3	-0.1	2.1	-0.3	100	100
4	4	4	MOVE	700	2900	2784.20	381.52	2060.49	338.56	32.5	32.6	-0.1	1.8	-0.1	100	100
4	4	5	MOVE	700	2900	2819.69	579.46	2060.49	538.02	30.9	31.2	0.0	2.1	-0.3	100	100
4	4	7	MOVE	700	2900	2837.37	678.17	2060.49	638.04	34.4	34.7	0.2	2.5	-0.3	100	100
4	4	8	MOVE	700	2900	2854.88	775.80	2060.50	737.03	27.1	27.5	0.3	3.0	-0.4	100	100
4	4	9	MOVE	700	2900	2872.55	874.39	2060.50	837.71	29.9	30.2	0.5	3.0	-0.2	100	100
4	4	10	MOVE	700	2900	2890.28	973.25	2060.51	937.87	37.2	37.6	0.6	3.4	-0.5	100	100
4	4	11	MOVE	700	2900	2908.09	1072.71	2060.50	1038.38	34.4	34.2	0.6	3.7	-0.1	100	100
4	4	12	MOVE	700	2900	2925.96	1172.18	2060.51	1138.35	33.7	34.0	0.5	3.4	-0.3	100	100
4	4	13	MOVE	700	2900	2943.83	1271.68	2060.51	1238.40	36.9	37.2	0.5	3.7	-0.3	100	100
4	4	14	MOVE	700	2900	2961.56	1370.37	2060.50	1337.44	34.5	34.7	0.4	2.1	-0.2	100	100
4	4	15	MOVE	700	2900	2979.48	1470.15	2060.50	1437.46	33.8	33.9	0.3	1.8	-0.2	100	100
4	4	16	MOVE	700	2900	2997.42	1569.94	2060.50	1537.49	34.0	34.3	0.2	0.8	-0.3	100	100
4	4	17	MOVE	700	2900	3015.26	1669.35	2060.50	1637.49	25.9	26.1	-0.0	-0.2	-0.2	100	100
4	4	18	MOVE	700	2900	3033.01	1768.42	2060.50	1737.52	26.3	26.5	-0.2	-1.5	-0.2	100	100
4	4	19	MOVE	700	2900	3050.73	1867.24	2060.50	1837.54	26.0	26.1	-0.5	-2.8	-0.1	100	100
4	4	20	MOVE	700	2900	3068.44	1965.78	2060.48	1937.55	30.4	30.5	-0.8	-3.7	-0.1	100	100
4	4	21	MOVE	700	2900	3086.01	2063.15	2060.50	2036.54	29.6	29.8	-1.0	-4.5	-0.2	100	100
4	4	22	MOVE	700	2900	3103.73	2161.54	2060.49	2136.60	25.1	25.4	-1.3	-5.3	-0.3	100	100
4	4	23	MOVE	700	2900	3121.48	2259.92	2060.52	2236.64	36.3	36.7	-1.6	-6.1	-0.5	100	100
4	4	24	MOVE	700	2900	3139.18	2358.27	2060.50	2336.66	29.3	29.6	-1.8	-6.9	-0.3	100	100
4	4	25	MOVE	700	2900	3156.88	2456.55	2060.52	2436.74	26.8	27.1	-2.0	-7.6	-0.2	100	100
4	4	26	MOVE	700	2900	3174.35	2554.39	2060.50	2537.21	32.1	32.4	-2.0	-7.9	-0.3	100	100
4	4	27	MOVE	700	2900	3191.48	2650.77	2060.49	2636.33	26.1	26.4	-1.9	-7.6	-0.3	100	100
4	4	28	MOVE	700	2900	3208.77	2748.08	2060.49	2736.38	26.5	26.8	-1.7	-7.4	-0.3	100	100
4	4	29	MOVE	700	2900	3226.12	2845.59	2060.51	2836.38	26.2	26.5	-1.6	-7.3	-0.3	100	100
4	4	30	MOVE	700	2900	3243.63	2943.67	2060.50	2936.32	29.0	29.3	-1.7	-7.8	-0.3	100	100
4	4	31	MOVE	700	2900	3261.26	3042.17	2060.50	3036.40	26.5	26.8	-1.8	-8.7	-0.3	100	100
4	4	32	MOVE	700	2900	3278.97	3141.02	2060.50	3136.44	25.3	25.5	-1.9	-9.3	-0.2	100	100
4	4	33	MOVE	700	2900	3296.73	3240.11	2060.51	3236.47	25.6	25.9	-2.0	-9.5	-0.3	100	100
4	4	34	MOVE	700	2900	3426.05	3206.91	2155.52	3230.47	27.1	27.5	-2.2	-9.8	-0.4	100	100
4	4	35	MOVE	700	2900	3556.74	3173.47	2251.50	3224.54	30.0	30.0	-2.4	-10.2	-0.0	100	100
4	4	36	MOVE	700	2900	3640.92	3118.85	2317.49	3188.52	25.9	26.1	-2.6	-10.3	-0.2	100	100
4	4	54	MOVE	700	2900	3301.42	3250.45	2062.50	3247.50	25.4	25.7	-2.0	-9.6	-0.2	100	100
4	4	55	MOVE	700	2900	3385.62	3192.86	2128.50	3211.50	25.2	25.4	-2.1	-9.7	-0.2	100	100
4	4	56	MOVE	700	2900	3516.29	3162.35	2224.50	3209.50	27.9	28.1	-2.4	-10.1	-0.2	100	100
4	4	57	MOVE	700	2900	3647.17	3129.84	2320.50	3206.50	26.9	27.0	-2.6	-10.4	-0.0	100	100
4	4	58	MOVE	700	2900	3629.44	3030.94	2320.50	3106.50	26.8	26.8	-2.5	-10.0	0.0	100	100
4	4	59	MOVE	700	2900	3611.95	2933.26	2320.50	3006.50	24.8	24.8	-2.4	-9.3	-0.0	100	100
4	4	60	MOVE	700	2900	3594.35	2834.89	2320.50	2906.50	24.0	24.0	-2.3	-8.4	-0.0	100	100
4	4	61	MOVE	700	2900	3576.94	2737.71	2320.50	2806.50	28.1	28.1	-2.2	-7.8	-0.0	100	100
4	4	62	MOVE	700	2900	3559.91	2641.41	2320.50	2706.50	30.5	30.5	-2.4	-8.1	0.0	100	100
4	4	63	MOVE	700	2900	3542.63	2544.15	2320.50	2606.50	27.3	27.3	-2.6	-8.4	-0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
3	4	64	MJVE	700	2900	3525.54	2447.91	2320.50	2904.50	25.7	25.7	-2.8	-8.7	0.0	100	100
3	4	65	MJVE	700	2900	3508.12	2359.82	2320.50	2902.50	25.6	25.6	-2.7	-8.3	-0.0	100	100
3	4	66	MJVE	700	2900	3490.42	2252.45	2320.50	2905.50	27.3	27.2	-2.4	-7.3	0.1	100	100
3	4	67	MJVE	700	2900	3472.89	2155.25	2320.50	2906.50	29.1	29.2	-2.1	-6.2	-0.1	100	100
3	4	68	MJVE	700	2900	3455.14	2056.57	2320.50	2908.50	39.6	39.8	-1.8	-5.6	-0.2	100	100
3	4	69	MJVE	700	2900	3437.61	1959.37	2320.50	2907.50	26.7	26.6	-1.5	-4.5	0.0	100	100
3	4	70	MJVE	700	2900	3420.07	1861.91	2320.50	2908.50	31.6	31.7	-1.2	-3.6	-0.1	100	100
3	4	71	MJVE	700	2900	3402.33	1763.53	2320.50	2909.50	28.3	28.3	-1.0	-2.7	0.0	100	100
3	4	72	MJVE	700	2900	3384.77	1666.07	2320.50	2909.50	33.3	33.4	-0.7	-1.5	-0.0	100	100
3	4	73	MJVE	700	2900	3367.14	1567.81	2320.50	2910.50	27.6	27.7	-0.5	-0.5	-0.1	100	100
3	4	74	MJVE	700	2900	3349.20	1468.01	2320.50	2910.50	27.2	27.2	-0.4	0.1	0.0	100	100
3	4	75	MJVE	700	2900	3331.44	1369.18	2320.50	2911.50	28.0	28.0	-0.3	0.7	-0.1	100	100
3	4	76	MJVE	700	2900	3313.51	1269.42	2320.50	2911.50	31.1	31.1	-0.2	1.4	0.0	100	100
3	4	77	MJVE	700	2900	3295.80	1170.78	2320.50	2912.50	29.3	29.4	-0.1	1.8	-0.0	100	100
3	4	78	MJVE	700	2900	3278.22	1072.75	2320.50	2913.50	30.4	30.6	-0.2	1.8	-0.1	100	100
3	4	79	MJVE	700	2900	3260.52	973.88	2320.50	2913.50	25.9	25.8	-0.3	1.5	0.0	100	100
3	4	80	MJVE	700	2900	3242.96	876.02	2320.50	2914.50	32.2	32.2	-0.4	1.3	0.0	100	100
3	4	81	MJVE	700	2900	3225.44	778.11	2320.50	2915.50	28.9	28.9	-0.5	1.1	-0.0	100	100
3	4	82	MJVE	700	2900	3207.72	679.25	2320.50	2915.50	29.9	29.9	-0.6	0.8	-0.1	100	100
3	4	83	MJVE	700	2900	3190.19	581.40	2320.50	2916.50	36.8	37.0	-0.7	0.6	-0.2	100	100
3	4	84	MJVE	700	2900	3172.47	482.55	2320.50	2916.50	38.7	38.8	-0.8	0.4	-0.2	100	100
3	4	85	MJVE	700	2900	3154.94	384.69	2320.50	2917.50	29.2	29.3	-0.9	0.5	-0.0	100	100
3	4	86	MJVE	700	2900	3137.39	286.70	2320.50	2918.50	32.7	32.7	-0.8	0.8	0.0	100	100
3	4	87	MJVE	700	2900	3119.70	187.91	2320.50	2918.50	32.4	32.1	-0.7	1.3	0.4	100	100
3	4	88	MJVE	700	2900	3102.12	89.78	2320.50	2919.50	33.2	33.1	-0.7	1.5	0.0	100	100
3	4	89	MJVE	700	2900	3084.52	-8.36	2320.50	2920.50	29.2	29.3	-0.7	1.6	-0.1	100	100
3	4	90	MJVE	700	2900	2953.68	24.26	2224.50	2825.50	33.1	33.1	-0.4	2.1	-0.0	100	100
3	4	96	MJVE	700	2900	2738.46	110.41	2062.50	2689.50	34.8	34.9	-0.1	2.5	-0.1	100	100
3	4	110	MJVE	700	2900	3086.30	25.41	2317.49	2953.50	40.1	40.4	-0.7	1.7	-0.3	100	100
3	4	111	MJVE	700	2900	2995.37	18.68	2257.45	2848.41	35.7	36.6	-4.6	2.9	-0.9	100	100
3	4	112	MJVE	700	2900	2860.43	52.02	2155.53	2855.48	30.9	31.1	-0.3	2.3	-0.2	100	100
3	5	32	MJVE	700	2900	602.15	3812.77	100.50	3250.50	22.0	27.4	-3.2	-11.5	-5.4	100	100
3	5	36	MJVE	700	2900	1403.19	3606.59	686.50	3209.50	20.1	24.8	-0.8	-9.4	-4.6	100	100
3	5	40	MJVE	700	2900	1669.06	3537.34	881.50	3195.50	17.5	23.3	-0.7	-8.9	-5.9	100	100
3	5	41	MJVE	700	2900	1802.35	3502.38	979.50	3188.50	17.7	23.0	-0.9	-8.8	-5.4	100	100
3	5	45	MJVE	700	2900	2336.02	3364.32	1370.50	3161.50	18.1	26.7	-0.3	-8.3	-8.6	100	100
3	5	91	MJVE	700	2900	2986.44	2491.57	1935.91	2428.28	19.6	25.5	0.5	0.1	-5.9	100	100
3	5	96	MJVE	700	2900	2515.09	2603.37	1590.84	2445.38	19.6	25.4	1.1	1.5	-5.9	100	100
3	5	97	MJVE	700	2900	2420.14	2627.79	1521.43	2447.28	18.8	25.2	1.5	2.4	-6.4	100	100
3	5	98	MJVE	700	2900	2231.15	2671.74	1383.55	2454.38	17.9	23.7	2.2	4.8	-5.7	100	100
3	5	104	MJVE	700	2900	1761.16	2786.69	1040.38	2471.50	19.7	24.1	1.7	5.1	-4.5	100	100
3	5	301	MJVE	700	2900	507.63	3029.73	132.00	2455.00	0.0	0.0	0.5	4.4	0.0	100	100
3	5	303	MJVE	700	2900	597.81	2999.41	199.00	2445.00	0.0	0.0	0.7	5.1	0.0	100	100
3	5	304	MJVE	700	2900	973.93	2983.41	464.00	2904.00	0.0	0.0	1.5	4.4	0.0	100	100
3	5	305	MJVE	700	2900	1044.66	2959.77	517.00	2495.00	0.0	0.0	0.9	4.8	0.0	100	100
3	5	306	MJVE	700	2900	1142.00	2874.84	596.00	2491.00	0.0	0.0	1.0	6.1	0.0	100	100
3	5	307	MJVE	700	2900	1060.55	3043.62	518.00	2977.00	0.0	0.0	0.9	4.5	0.0	100	100
3	5	308	MJVE	700	2900	1543.18	2835.49	885.00	2449.00	0.0	0.0	2.2	5.7	0.0	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
3	309	MJVE	700 2900	1335.75	2940.05	722.00	2941.00	0.0	0.0	1.9	4.2	0.0	100	100
5	310	MJVE	700 2900	1456.97	2944.35	807.00	2564.00	0.0	0.0	2.1	3.7	0.0	100	100
5	311	MJVE	700 2900	1580.46	2870.66	902.00	2522.00	0.0	0.0	2.3	5.3	0.0	100	100
5	313	MJVE	700 2900	1907.50	2908.91	1127.00	2624.00	0.0	0.0	2.3	3.7	0.0	100	100
5	314	MJVE	700 2900	1826.17	2785.11	1086.00	2483.00	0.0	0.0	1.9	5.2	0.0	100	100
5	315	MJVE	700 2900	1981.28	2784.32	1194.00	2514.00	0.0	0.0	2.9	4.5	0.0	100	100
5	316	MJVE	700 2900	2042.51	2692.40	1249.00	2430.00	0.0	0.0	2.4	5.9	0.0	100	100
5	317	MJVE	700 2900	2093.03	2839.35	1266.00	2590.00	0.0	0.0	2.1	4.7	0.0	100	100
5	318	MJVE	700 2900	2161.15	2818.74	1310.00	2584.00	0.0	0.0	2.5	4.4	0.0	100	100
5	319	MJVE	700 2900	2425.04	2697.89	1516.00	2519.00	0.0	0.0	2.1	2.9	0.0	100	100
5	320	MJVE	700 2900	2610.53	2603.05	1658.00	2401.00	0.0	0.0	1.4	1.1	0.0	100	100
5	321	MJVE	700 2900	3038.89	2593.18	1960.00	2540.00	0.0	0.0	0.4	-0.3	0.0	100	100
5	322	MJVE	700 2900	3000.90	2565.48	1937.00	2504.00	0.0	0.0	0.3	-0.4	0.0	100	100
5	324	MJVE	700 2900	2988.61	2480.21	1938.00	2425.00	0.0	0.0	0.4	0.6	0.0	100	100
5	325	MJVE	700 2900	3057.69	2736.18	1955.00	2689.00	0.0	0.0	1.1	0.6	0.0	100	100
5	327	MJVE	700 2900	2890.30	2414.84	1878.00	2352.00	0.0	0.0	1.0	1.3	0.0	100	100
5	328	MJVE	700 2900	3042.28	2395.06	1987.00	2345.00	0.0	0.0	0.8	0.3	0.0	100	100
5	329	MJVE	700 2900	3094.20	2789.39	1974.00	2740.00	0.0	0.0	1.0	-0.0	0.0	100	100
5	332	MJVE	700 2900	2933.91	2982.58	1838.00	2900.00	0.0	0.0	-0.0	-2.1	0.0	100	100
5	333	MJVE	700 2900	2882.92	2937.16	1801.00	2900.00	0.0	0.0	1.0	-2.1	0.0	100	100
5	337	MJVE	700 2900	3081.77	3212.33	1912.00	3107.00	0.0	0.0	-0.3	-10.4	0.0	100	100
5	338	MJVE	700 2900	2979.94	3107.87	1854.00	3041.00	0.0	0.0	0.0	-6.2	0.0	100	100
5	339	MJVE	700 2900	2943.14	3252.10	1839.00	3181.00	0.0	0.0	0.2	-10.9	0.0	100	100
5	340	MJVE	700 2900	2847.72	3179.09	1793.00	3084.00	0.0	0.0	-0.5	-6.7	0.0	100	100
5	341	MJVE	700 2900	2554.47	3343.98	1626.00	3190.00	0.0	0.0	-0.8	-10.1	0.0	100	100
5	342	MJVE	700 2900	2516.21	3333.80	1601.00	3169.00	0.0	0.0	-0.9	-8.6	0.0	100	100
5	343	MJVE	700 2900	2598.35	3410.95	1648.00	3270.00	0.0	0.0	-1.4	-12.3	0.0	100	100
5	344	MJVE	700 2900	2719.88	3157.38	1666.00	3036.00	0.0	0.0	-0.6	-5.6	0.0	100	100
5	345	MJVE	700 2900	2712.51	3262.23	1647.00	3142.00	0.0	0.0	-0.7	-8.5	0.0	100	100
5	346	MJVE	700 2900	2406.61	3379.75	1418.00	3192.00	0.0	0.0	-0.5	-9.3	0.0	100	100
5	347	MJVE	700 2900	2312.27	3229.85	1371.00	3042.00	0.0	0.0	-0.1	-3.8	0.0	100	100
5	348	MJVE	700 2900	2258.87	3417.07	1310.00	3196.00	0.0	0.0	-0.7	-8.9	0.0	100	100
5	349	MJVE	700 2900	2082.65	3329.25	1197.00	3074.00	0.0	0.0	-0.6	-5.9	0.0	100	100
5	350	MJVE	700 2900	1806.12	3503.82	982.00	3191.00	0.0	0.0	-1.0	-9.1	0.0	100	100
5	351	MJVE	700 2900	1603.39	3417.89	850.00	3089.00	0.0	0.0	-0.2	-5.8	0.0	100	100
5	352	MJVE	700 2900	1506.72	3469.19	777.00	3092.00	0.0	0.0	-1.0	-5.2	0.0	100	100
5	353	MJVE	700 2900	1534.86	3562.75	785.00	3195.00	0.0	0.0	-1.7	-8.7	0.0	100	100
5	354	MJVE	700 2900	1570.63	3618.46	803.00	3250.00	0.0	0.0	-2.2	-12.4	0.0	100	100
5	355	MJVE	700 2900	997.02	3622.89	400.00	3141.00	0.0	0.0	-0.7	-8.2	0.0	100	100
5	356	MJVE	700 2900	1072.19	3549.33	462.00	3083.00	0.0	0.0	-0.5	-5.4	0.0	100	100
5	357	MJVE	700 2900	1338.46	3644.66	636.00	3233.00	0.0	0.0	-0.6	-11.2	0.0	100	100
5	358	MJVE	700 2900	1188.09	3544.78	543.00	3103.00	0.0	0.0	0.4	-6.6	0.0	100	100
5	359	MJVE	700 2900	1372.49	3488.85	680.00	3089.00	0.0	0.0	-0.4	-5.4	0.0	100	100
5	360	MJVE	700 2900	621.13	3783.43	118.00	3224.00	0.0	0.0	-3.5	-9.6	0.0	100	100
5	361	MJVE	700 2900	778.28	3808.55	224.00	3283.00	0.0	0.0	-2.6	-13.0	0.0	100	100
5	362	MJVE	700 2900	633.70	3700.82	136.00	3145.00	0.0	0.0	-1.7	-8.6	0.0	100	100
5	363	MJVE	700 2900	734.95	3679.16	210.00	3144.00	0.0	0.0	-2.0	-8.3	0.0	100	100
5	364	MJVE	700 2900	537.28	3422.93	104.00	2848.00	0.0	0.0	-1.2	-0.6	0.0	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
5	365	MJVE	700 2900	535.50	3544.43	88.00	2988.00	0.0	0.0	-2.4	-2.9	0.0	100	100
5	366	MJVE	700 2900	623.10	3541.23	149.00	2983.00	0.0	0.0	-1.3	-3.6	0.0	100	100
5	367	MJVE	700 2900	854.06	3407.57	327.00	2847.00	0.0	0.0	0.2	-1.1	0.0	100	100
5	368	MJVE	700 2900	870.57	3409.54	339.00	2856.00	0.0	0.0	-0.7	-0.6	0.0	100	100
5	369	MJVE	700 2900	577.23	3282.47	149.00	2717.00	0.0	0.0	0.2	1.8	0.0	100	100
5	370	MJVE	700 2900	580.71	3155.56	168.00	2593.00	0.0	0.0	-0.4	3.4	0.0	100	100
5	371	MJVE	700 2900	719.48	3088.38	273.00	2555.00	0.0	0.0	0.7	3.9	0.0	100	100
5	372	MJVE	700 2900	721.28	3241.46	255.00	2706.00	0.0	0.0	0.4	1.9	0.0	100	100
6	4	MJVE	700 2900	2964.59	2736.07	1890.35	2001.43	24.9	26.6	1.1	5.0	-2.1	100	100
6	13	MJVE	700 2900	3311.03	2361.19	2180.70	2307.84	27.9	29.1	-0.8	-0.2	-1.2	100	100
6	14	MJVE	700 2900	3180.76	2390.09	2085.75	2309.43	27.4	29.3	-0.8	-0.2	-1.8	100	100
6	15	MJVE	700 2900	3400.54	3089.20	2152.50	3100.50	23.1	25.6	-1.5	-5.3	-2.4	100	100
6	22	MJVE	700 2900	3500.76	2867.61	2250.50	2900.50	25.6	27.6	-0.5	-0.5	-1.9	100	100
6	23	MJVE	700 2900	3483.93	2773.27	2250.50	2809.50	25.6	28.0	-0.3	0.9	-2.4	100	100
6	24	MJVE	700 2900	3467.13	2678.88	2250.50	2712.50	28.7	33.0	-0.5	0.7	-4.3	100	100
6	25	MJVE	700 2900	3450.49	2584.99	2250.50	2616.50	24.4	26.6	-0.7	-0.1	-2.2	100	100
6	26	MJVE	700 2900	3433.68	2490.59	2250.50	2519.50	26.0	28.8	-0.9	-0.4	-2.7	100	100
6	27	MJVE	700 2900	3416.54	2395.69	2250.50	2422.50	30.3	31.0	-1.1	-0.1	-0.7	100	100
6	28	MJVE	700 2900	3398.82	2296.21	2250.50	2325.50	30.3	33.3	-1.3	-1.3	-3.0	100	100
6	303	MJVE	700 2900	3084.76	2511.96	2003.00	2488.00	0.0	0.0	-0.5	0.5	0.0	100	100
6	305	MJVE	700 2900	2989.02	2589.73	1926.00	2574.00	0.0	0.0	0.1	2.2	0.0	100	100
6	307	MJVE	700 2900	3022.51	2903.04	1922.00	2743.00	0.0	0.0	1.0	4.9	0.0	100	100
6	310	MJVE	700 2900	3413.68	2669.26	2212.00	2691.00	0.0	0.0	-0.3	0.9	0.0	100	100
6	316	MJVE	700 2900	3010.59	3082.14	1879.00	3010.00	0.0	0.0	0.7	3.0	0.0	100	100
6	318	MJVE	700 2900	3248.45	3079.59	2047.00	3003.00	0.0	0.0	-0.8	-1.6	0.0	100	100
6	320	MJVE	700 2900	3501.25	2883.48	2249.00	2722.00	0.0	0.0	-0.7	-0.4	0.0	100	100
6	321	MJVE	700 2900	2954.94	2952.28	1856.00	2873.00	0.0	0.0	1.7	6.3	0.0	100	100
6	325	MJVE	700 2900	3038.90	3271.57	1875.00	3209.00	0.0	0.0	0.2	-3.4	0.0	100	100
6	326	MJVE	700 2900	3344.07	3180.20	2101.00	3165.00	0.0	0.0	-1.1	-6.8	0.0	100	100
6	329	MJVE	700 2900	3451.44	3199.86	2174.00	3226.00	0.0	0.0	-1.8	-9.2	0.0	100	100
6	330	MJVE	700 2900	3194.69	3230.41	1989.00	3209.00	0.0	0.0	-0.8	-6.2	0.0	100	100
6	331	MJVE	700 2900	3565.89	3119.31	2265.00	3100.00	0.0	0.0	-1.8	-8.4	0.0	100	100
6	334	MJVE	700 2900	3399.27	2627.21	2209.00	2647.00	0.0	0.0	-0.1	0.7	0.0	100	100
1	2	MJVE	3500 2200	68.01	915.92	100.50	498.50	31.0	33.8	0.2	0.1	3.2	100	100
1	3	MJVE	3500 2200	84.85	1011.42	100.50	590.50	32.9	30.9	-0.3	-1.3	2.0	100	100
1	4	MJVE	3500 2200	102.04	1107.21	100.50	683.50	32.8	32.0	-0.7	-3.5	0.9	100	100
1	5	MJVE	3500 2200	119.49	1202.58	100.50	775.50	29.1	28.7	-0.7	-5.2	0.5	100	100
1	6	MJVE	3500 2200	136.69	1298.95	100.50	867.50	27.8	28.9	-1.0	-6.0	0.8	100	100
1	7	MJVE	3500 2200	154.12	1396.80	100.50	960.50	28.2	27.8	-1.2	-6.3	-1.6	100	100
1	8	MJVE	3500 2200	171.85	1493.96	100.50	1052.50	32.5	31.7	-1.0	-6.3	0.8	100	100
1	9	MJVE	3500 2200	189.29	1595.90	100.50	1147.50	37.4	35.4	-1.2	-2.4	2.1	100	100
1	32	MJVE	3500 2200	959.85	1788.08	618.39	1529.09	36.0	32.3	1.0	5.7	3.8	100	100
1	34	MJVE	3500 2200	921.28	1693.07	615.07	1434.73	36.4	34.0	0.1	1.1	2.4	100	100
1	35	MJVE	3500 2200	902.09	1598.24	613.44	1339.80	27.9	27.1	-0.2	-0.4	0.8	100	100
1	36	MJVE	3500 2200	884.16	1412.05	613.70	957.74	39.3	34.1	-2.0	-2.6	5.2	100	100
1	37	MJVE	3500 2200	863.03	1312.10	609.89	860.04	41.6	36.8	-0.7	-3.2	4.9	100	100
1	44	MJVE	3500 2200	724.10	630.65	597.51	180.02	39.4	39.5	0.1	2.4	-0.1	100	100
1	344	MJVE	3500 2200	230.59	748.82	236.00	167.00	0.0	0.0	0.5	2.2	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTER FRAME ERR LINE	INTER FRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
4	1	306	MOVE	3500	2200	813.79	671.70	656.00	215.00	0.0	0.0	0.1	0.9	0.0	100	100
4	1	307	MOVE	3500	2200	643.82	661.95	538.00	169.00	0.0	0.0	-0.2	1.9	0.0	100	100
4	1	309	MOVE	3500	2200	545.74	963.52	431.00	448.00	0.0	0.0	-1.2	-3.7	0.0	100	100
4	1	310	MOVE	3500	2200	645.16	1042.64	491.00	547.00	0.0	0.0	-0.8	-3.1	0.0	100	100
4	1	311	MOVE	3500	2200	900.68	984.75	678.00	545.00	0.0	0.0	-0.5	-3.5	0.0	100	100
4	1	315	MOVE	3500	2200	760.99	1333.42	536.00	850.00	0.0	0.0	-0.9	-3.3	0.0	100	100
4	1	316	MOVE	3500	2200	842.72	1562.42	564.00	1096.00	0.0	0.0	0.1	-0.1	0.0	100	100
4	1	317	MOVE	3500	2200	1014.83	1493.89	694.00	1062.00	0.0	0.0	0.4	-0.4	0.0	100	100
4	1	319	MOVE	3500	2200	673.90	1557.23	446.00	1093.00	0.0	0.0	0.1	-0.9	0.0	100	100
4	1	320	MOVE	3500	2200	950.45	1776.00	613.00	1317.00	0.0	0.0	1.2	-4.8	0.0	100	100
4	1	321	MOVE	3500	2200	745.20	1953.45	446.00	1442.00	0.0	0.0	1.6	-8.2	0.0	100	100
4	1	324	MOVE	3500	2200	770.46	2117.93	443.00	1600.00	0.0	0.0	2.5	-13.3	0.0	100	100
4	1	327	MOVE	3500	2200	106.29	1781.04	18.00	1291.00	0.0	0.0	-0.3	-3.2	0.0	100	100
4	1	328	MOVE	3500	2200	408.90	1764.56	230.00	1215.00	0.0	0.0	0.5	-1.8	0.0	100	100
4	1	329	MOVE	3500	2200	164.49	1417.82	105.00	813.00	0.0	0.0	-1.0	-6.3	0.0	100	100
4	1	330	MOVE	3500	2200	85.26	1515.53	37.00	891.00	0.0	0.0	-1.0	-5.5	0.0	100	100
4	1	331	MOVE	3500	2200	34.36	1399.83	16.00	768.00	0.0	0.0	-1.2	-5.4	0.0	100	100
4	1	332	MOVE	3500	2200	-18.33	1040.19	24.00	403.00	0.0	0.0	0.2	-1.1	0.0	100	100
4	2	8	MOVE	3500	2200	3114.49	851.99	2250.50	874.00	28.2	28.3	0.3	-2.3	2.9	100	100
4	2	9	MOVE	3500	2200	3096.70	755.25	2250.50	777.50	30.5	27.6	0.1	-3.1	2.9	100	100
4	2	10	MOVE	3500	2200	3078.61	659.13	2250.50	680.50	28.1	26.1	-0.7	-3.4	2.0	100	100
4	2	11	MOVE	3500	2200	3060.91	563.17	2250.50	583.50	29.6	26.3	-1.2	-3.5	3.3	100	100
4	2	12	MOVE	3500	2200	3044.18	467.24	2250.50	487.50	27.5	24.5	-0.9	-2.6	3.0	100	100
4	2	13	MOVE	3500	2200	3027.21	374.43	2250.50	390.50	28.5	26.0	-0.7	-1.6	2.5	100	100
4	2	14	MOVE	3500	2200	3010.29	280.16	2250.50	293.50	32.2	28.9	-0.4	-0.0	3.4	100	100
4	2	15	MOVE	3500	2200	2993.17	186.40	2250.50	196.50	29.7	27.0	-0.4	2.1	2.7	100	100
4	2	16	MOVE	3500	2200	2976.60	94.10	2250.50	100.50	29.7	27.2	0.1	4.6	2.5	100	100
4	2	17	MOVE	3500	2200	2843.35	126.64	2152.50	104.50	30.3	27.6	0.4	4.9	2.7	100	100
4	2	18	MOVE	3500	2200	2709.82	160.59	2054.50	109.50	34.3	30.9	0.2	5.4	3.4	100	100
4	2	19	MOVE	3500	2200	2576.34	193.70	1956.50	113.50	33.7	30.7	0.2	5.8	4.9	100	100
4	2	20	MOVE	3500	2200	2444.39	227.80	1859.50	118.50	32.9	30.2	0.2	6.4	2.8	100	100
4	2	21	MOVE	3500	2200	2310.78	260.80	1761.50	122.50	34.0	31.3	0.0	6.4	2.7	100	100
4	2	24	MOVE	3500	2200	2177.19	294.27	1663.50	127.50	35.8	35.9	-0.3	6.3	-0.0	100	100
4	2	23	MOVE	3500	2200	2045.37	326.91	1565.50	131.50	31.0	29.4	-0.7	6.2	1.6	100	100
4	2	24	MOVE	3500	2200	1911.32	360.14	1468.50	136.50	30.9	33.2	-0.8	5.9	3.7	100	100
4	2	25	MOVE	3500	2200	1777.74	392.51	1370.50	140.50	30.8	34.8	-0.9	5.5	4.0	100	100
4	2	26	MOVE	3500	2200	1644.49	425.85	1272.50	145.50	31.8	29.7	-0.9	5.1	2.1	100	100
4	2	27	MOVE	3500	2200	1512.53	459.31	1175.50	150.50	33.0	32.2	-0.9	4.8	0.8	100	100
4	2	28	MOVE	3500	2200	1379.23	491.37	1077.50	154.50	31.3	28.1	-0.8	4.4	3.2	100	100
4	2	29	MOVE	3500	2200	1244.37	524.12	979.50	159.50	30.8	30.6	-2.4	3.4	6.2	100	100
4	2	30	MOVE	3500	2200	1112.93	557.76	881.50	163.50	31.4	29.4	-0.3	4.2	2.0	100	100
4	2	31	MOVE	3500	2200	980.32	588.98	784.50	168.50	40.7	41.1	-1.0	2.0	-0.3	100	100
4	2	33	MOVE	3500	2200	714.35	655.72	588.50	177.50	38.3	36.8	-0.3	2.2	1.6	100	100
4	2	35	MOVE	3500	2200	449.64	722.82	393.50	186.50	37.1	34.9	-0.4	3.0	2.2	100	100
4	2	37	MOVE	3500	2200	560.25	697.44	474.40	183.62	36.6	31.2	-0.8	4.3	-0.6	100	100
4	2	38	MOVE	3500	2200	581.28	798.42	476.74	290.77	38.5	37.2	-0.4	0.1	1.3	100	100
4	2	39	MOVE	3500	2200	601.79	893.77	478.49	393.50	29.0	27.8	-0.9	-2.6	1.2	100	100
4	2	41	MOVE	3500	2200	641.80	1095.34	481.93	599.48	33.4	37.0	-0.9	-4.6	13.5	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
4	2	42	MOVE	3500	2200	662.23	1192.54	484.40	699.68	44.3	38.0	-1.5	-5.1	6.4	100	100
4	2	43	MOVE	3500	2200	681.60	1239.30	485.48	747.77	38.2	35.8	-1.0	-5.1	0.4	100	100
4	2	44	MOVE	3500	2200	701.72	1386.57	487.47	896.54	35.5	34.8	-1.0	-4.6	0.8	100	100
4	2	45	MOVE	3500	2200	721.52	1482.56	489.36	993.68	36.1	29.0	-1.0	-3.9	1.1	100	100
4	2	46	MOVE	3500	2200	741.22	1578.95	490.98	1090.33	38.1	35.5	-0.6	-2.5	2.6	100	100
4	2	47	MOVE	3500	2200	760.64	1674.11	492.50	1185.33	35.3	33.3	-0.1	-0.9	2.0	100	100
4	2	301	MOVE	3500	2200	1012.82	542.39	813.00	128.00	0.0	0.0	-0.4	3.8	0.0	100	100
4	2	302	MOVE	3500	2200	964.77	601.74	771.00	177.00	0.0	0.0	-0.4	2.4	0.0	100	100
4	2	303	MOVE	3500	2200	984.70	698.62	785.00	189.00	0.0	0.0	-1.0	1.5	0.0	100	100
4	2	304	MOVE	3500	2200	822.57	669.00	663.00	215.00	0.0	0.0	-0.7	0.3	0.0	100	100
4	2	305	MOVE	3500	2200	680.07	618.66	569.00	133.00	0.0	0.0	-0.0	3.3	0.0	100	100
4	2	306	MOVE	3500	2200	680.71	781.91	549.00	298.00	0.0	0.0	-0.8	-0.4	0.0	100	100
4	2	307	MOVE	3500	2200	1024.00	660.15	806.00	248.00	0.0	0.0	-0.9	0.9	0.0	100	100
4	2	308	MOVE	3500	2200	527.07	762.34	443.00	248.00	0.0	0.0	-0.0	1.3	0.0	100	100
4	2	309	MOVE	3500	2200	517.86	900.27	419.00	379.00	0.0	0.0	-0.4	-2.3	0.0	100	100
4	2	310	MOVE	3500	2200	717.79	878.32	563.00	400.00	0.0	0.0	-1.4	-2.6	0.0	100	100
4	2	311	MOVE	3500	2200	1043.24	901.03	789.00	490.00	0.0	0.0	-0.9	-1.6	0.0	100	100
4	2	312	MOVE	3500	2200	845.27	850.52	656.00	400.00	0.0	0.0	-1.2	-3.1	0.0	100	100
4	2	313	MOVE	3500	2200	706.61	973.04	543.00	492.00	0.0	0.0	-1.1	-3.8	0.0	100	100
4	2	314	MOVE	3500	2200	601.09	1081.81	455.00	577.00	0.0	0.0	-0.9	-4.1	0.0	100	100
4	2	315	MOVE	3500	2200	1074.00	994.94	799.00	589.00	0.0	0.0	-0.6	-1.1	0.0	100	100
4	2	316	MOVE	3500	2200	993.88	890.23	756.00	470.00	0.0	0.0	-1.7	-2.7	0.0	100	100
4	2	317	MOVE	3500	2200	585.46	1033.58	450.00	520.00	0.0	0.0	-0.9	-4.0	0.0	100	100
4	2	318	MOVE	3500	2200	546.79	969.91	433.00	499.00	0.0	0.0	-1.1	-3.5	0.0	100	100
4	2	319	MOVE	3500	2200	649.67	899.04	512.00	468.00	0.0	0.0	-0.7	-2.8	0.0	100	100
4	2	320	MOVE	3500	2200	618.95	1215.68	451.00	713.00	0.0	0.0	-1.6	-5.5	0.0	100	100
4	2	321	MOVE	3500	2200	607.44	1181.73	447.00	677.00	0.0	0.0	-1.3	-5.2	0.0	100	100
4	2	322	MOVE	3500	2200	644.44	1333.45	454.00	833.00	0.0	0.0	-1.4	-5.1	0.0	100	100
4	2	323	MOVE	3500	2200	754.12	1217.44	546.00	743.00	0.0	0.0	-1.5	-4.8	0.0	100	100
4	2	324	MOVE	3500	2200	1137.69	1117.04	829.00	723.00	0.0	0.0	-0.9	-2.0	0.0	100	100
4	2	325	MOVE	3500	2200	1011.60	1134.28	738.00	710.00	0.0	0.0	-1.3	-3.8	0.0	100	100
4	2	326	MOVE	3500	2200	902.89	1215.90	671.00	773.00	0.0	0.0	-1.6	-5.3	0.0	100	100
4	2	327	MOVE	3500	2200	740.99	1331.01	522.00	851.00	0.0	0.0	-0.9	-5.0	0.0	100	100
4	2	328	MOVE	3500	2200	665.26	1520.98	444.00	1025.00	0.0	0.0	-0.9	-4.1	0.0	100	100
4	2	330	MOVE	3500	2200	849.50	1613.36	563.00	1140.00	0.0	0.0	-0.6	-1.9	0.0	100	100
4	2	331	MOVE	3500	2200	879.49	1539.36	593.00	1081.00	0.0	0.0	-0.2	-3.0	0.0	100	100
4	2	332	MOVE	3500	2200	1042.64	1443.41	720.00	1024.00	0.0	0.0	-0.5	-3.7	0.0	100	100
4	2	333	MOVE	3500	2200	1188.26	1362.85	833.00	973.00	0.0	0.0	-0.1	-2.3	0.0	100	100
4	2	334	MOVE	3500	2200	824.40	1480.57	561.00	1019.00	0.0	0.0	-0.5	-3.8	0.0	100	100
4	2	335	MOVE	3500	2200	952.18	1494.56	650.00	1053.00	0.0	0.0	-0.5	-3.6	0.0	100	100
4	2	336	MOVE	3500	2200	707.49	1642.58	459.00	1144.00	0.0	0.0	-0.2	-1.3	0.0	100	100
4	2	337	MOVE	3500	2200	728.73	1877.76	444.00	1271.00	0.0	0.0	0.7	3.0	0.0	100	100
4	2	338	MOVE	3500	2200	1057.94	1870.02	676.00	1435.00	0.0	0.0	1.4	4.9	0.0	100	100
4	2	339	MOVE	3500	2200	1219.78	1712.94	811.00	1314.00	0.0	0.0	0.5	2.3	0.0	100	100
4	2	341	MOVE	3500	2200	1017.89	1717.02	668.00	1278.00	0.0	0.0	0.6	1.0	0.0	100	100
4	2	342	MOVE	3500	2200	894.35	2073.53	536.00	1580.00	0.0	0.0	1.8	10.1	0.0	100	100
4	2	343	MOVE	3500	2200	760.07	2057.84	443.00	1545.00	0.0	0.0	2.0	8.4	0.0	100	100
4	2	344	MOVE	3500	2200	1000.12	2074.69	610.00	1608.00	0.0	0.0	2.5	10.8	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
4	2	346	MOVE	3500	2200	1310.32	2026.05	835.00	1023.00	0.0	0.0	2.7	12.6	0.0	100	100
4	2	347	MOVE	3500	2200	1206.52	1976.48	768.00	1257.00	0.0	0.0	2.3	9.8	0.0	100	100
4	2	348	MOVE	3500	2200	1421.05	1978.61	919.00	1001.00	0.0	0.0	2.6	11.5	0.0	100	100
4	2	349	MOVE	3500	2200	1377.13	1910.28	897.00	1029.00	0.0	0.0	1.7	9.0	0.0	100	100
4	2	350	MOVE	3500	2200	1543.76	1826.79	1025.00	1484.00	0.0	0.0	1.5	7.8	0.0	100	100
4	2	351	MOVE	3500	2200	1533.60	1766.70	1025.00	1420.00	0.0	0.0	1.7	5.8	0.0	100	100
4	2	352	MOVE	3500	2200	1711.90	1780.37	1149.00	1474.00	0.0	0.0	1.8	7.3	0.0	100	100
4	2	353	MOVE	3500	2200	1650.85	1831.79	1104.00	1510.00	0.0	0.0	1.9	9.6	0.0	100	100
4	2	354	MOVE	3500	2200	1786.95	1772.91	1203.00	1481.00	0.0	0.0	1.6	8.5	0.0	100	100
4	2	355	MOVE	3500	2200	1923.40	1683.61	1310.00	1424.00	0.0	0.0	1.6	7.3	0.0	100	100
4	2	356	MOVE	3500	2200	2018.45	1712.81	1373.00	1470.00	0.0	0.0	1.9	8.6	0.0	100	100
4	2	357	MOVE	3500	2200	2213.92	1718.40	1510.00	1513.00	0.0	0.0	1.9	10.8	0.0	100	100
4	2	358	MOVE	3500	2200	2367.39	1687.94	1621.00	1514.00	0.0	0.0	3.0	11.5	0.0	100	100
4	2	359	MOVE	3500	2200	2316.47	1631.60	1593.00	1424.00	0.0	0.0	1.6	9.2	0.0	100	100
4	2	360	MOVE	3500	2200	1868.74	1818.52	1255.00	1539.00	0.0	0.0	1.6	11.0	0.0	100	100
4	2	361	MOVE	3500	2200	2514.25	1582.60	1738.00	1449.00	0.0	0.0	1.9	9.3	0.0	100	100
4	2	362	MOVE	3500	2200	2588.23	1558.61	1793.00	1457.00	0.0	0.0	1.9	9.3	0.0	100	100
4	2	363	MOVE	3500	2200	2623.44	1633.44	1808.00	1513.00	0.0	0.0	2.9	12.4	0.0	100	100
4	2	364	MOVE	3500	2200	2749.66	1513.40	1912.00	1426.00	0.0	0.0	2.0	9.8	0.0	100	100
4	2	365	MOVE	3500	2200	2769.27	1581.28	1917.00	1493.00	0.0	0.0	2.6	12.0	0.0	100	100
4	2	366	MOVE	3500	2200	2838.23	1431.19	1984.00	1307.00	0.0	0.0	2.3	7.5	0.0	100	100
4	2	367	MOVE	3500	2200	2907.11	1379.79	2039.00	1333.00	0.0	0.0	1.4	6.3	0.0	100	100
4	2	368	MOVE	3500	2200	2977.65	1562.02	2065.00	1210.00	0.0	0.0	3.0	13.1	0.0	100	100
4	2	369	MOVE	3500	2200	2982.54	1336.28	2097.00	1307.00	0.0	0.0	1.6	5.8	0.0	100	100
4	2	370	MOVE	3500	2200	2988.15	1398.36	2093.00	1366.00	0.0	0.0	2.0	7.7	0.0	100	100
4	2	371	MOVE	3500	2200	3067.84	1380.80	2151.00	1366.00	0.0	0.0	1.9	7.3	0.0	100	100
4	2	372	MOVE	3500	2200	3152.85	1497.93	2195.00	1491.00	0.0	0.0	3.9	12.6	0.0	100	100
4	2	373	MOVE	3500	2200	3218.12	1262.66	2271.00	1284.00	0.0	0.0	1.5	6.4	0.0	100	100
4	2	374	MOVE	3500	2200	2962.63	1289.25	2089.00	1259.00	0.0	0.0	1.5	4.5	0.0	100	100
4	2	375	MOVE	3500	2200	3250.55	1500.36	2264.00	1312.00	0.0	0.0	3.1	14.2	0.0	100	100
4	2	376	MOVE	3500	2200	3154.86	1194.23	2235.00	1212.00	0.0	0.0	1.2	3.4	0.0	100	100
4	2	377	MOVE	3500	2200	3147.44	1100.78	2242.00	1119.00	0.0	0.0	0.9	1.0	0.0	100	100
4	2	378	MOVE	3500	2200	3091.25	1169.16	2194.00	1172.00	0.0	0.0	1.2	2.3	0.0	100	100
4	2	379	MOVE	3500	2200	2935.21	1223.69	2078.00	1194.00	0.0	0.0	1.1	2.8	0.0	100	100
4	2	380	MOVE	3500	2200	3227.80	1072.80	2302.00	1208.00	0.0	0.0	1.1	1.5	0.0	100	100
4	2	381	MOVE	3500	2200	3141.32	980.32	2253.00	1063.00	0.0	0.0	0.5	-0.3	0.0	100	100
4	2	382	MOVE	3500	2200	2916.64	993.26	2094.00	971.00	0.0	0.0	0.3	-0.7	0.0	100	100
4	2	383	MOVE	3500	2200	3032.06	936.18	2205.00	965.00	0.0	0.0	0.3	-0.7	0.0	100	100
4	2	384	MOVE	3500	2200	3008.64	789.76	2184.00	792.00	0.0	0.0	0.3	-3.0	0.0	100	100
4	2	385	MOVE	3500	2200	2947.48	740.62	2147.00	738.00	0.0	0.0	0.3	-3.2	0.0	100	100
4	2	386	MOVE	3500	2200	3002.34	602.26	2204.00	669.00	0.0	0.0	0.6	-2.7	0.0	100	100
4	2	387	MOVE	3500	2200	2945.11	664.01	2156.00	657.00	0.0	0.0	0.6	-3.1	0.0	100	100
4	2	388	MOVE	3500	2200	2799.82	624.75	2059.00	588.00	0.0	0.0	0.8	-2.6	0.0	100	100
4	2	389	MOVE	3500	2200	2878.20	883.76	2081.00	856.00	0.0	0.0	0.8	-2.0	0.0	100	100
4	2	390	MOVE	3500	2200	3160.18	662.98	2307.00	701.00	0.0	0.0	0.2	-1.7	0.0	100	100
4	2	391	MOVE	3500	2200	2943.84	369.51	2193.00	364.00	0.0	0.0	-0.2	-3.4	0.0	100	100
4	2	392	MOVE	3500	2200	2917.17	248.30	2184.00	280.00	0.0	0.0	-0.1	-0.9	0.0	100	100
4	2	393	MOVE	3500	2200	2901.68	187.61	2186.00	178.00	0.0	0.0	-0.2	2.9	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
4	2	394	MOVE	3500	2200	3045.00	214.86	2283.00	236.00	0.0	0.0	-0.1	0.9	0.0	100	100
4	2	395	MOVE	3500	2200	3067.75	351.15	2282.00	370.00	0.0	0.0	-0.8	-1.4	0.0	100	100
4	2	396	MOVE	3500	2200	2766.76	456.60	2057.00	410.00	0.0	0.0	-0.6	-0.7	0.0	100	100
4	2	397	MOVE	3500	2200	2733.30	252.92	2059.00	207.00	0.0	0.0	-0.2	2.7	0.0	100	100
4	2	398	MOVE	3500	2200	2770.54	301.89	2079.00	264.00	0.0	0.0	-0.0	1.2	0.0	100	100
4	2	399	MOVE	3500	2200	3039.16	40.35	2301.00	00.00	0.0	0.0	0.6	5.5	0.0	100	100
4	2	400	MOVE	3500	2200	2733.87	122.18	2076.00	78.00	0.0	0.0	0.8	6.4	0.0	100	100
4	2	401	MOVE	3500	2200	2151.75	243.07	1652.00	71.00	0.0	0.0	0.0	7.6	0.0	100	100
4	2	402	MOVE	3500	2200	2111.32	407.87	1603.00	427.00	0.0	0.0	-1.0	5.8	0.0	100	100
4	2	403	MOVE	3500	2200	1845.71	401.47	1417.00	164.00	0.0	0.0	-0.8	5.0	0.0	100	100
4	2	404	MOVE	3500	2200	1728.08	436.07	1330.00	175.00	0.0	0.0	-0.9	5.1	0.0	100	100
4	2	405	MOVE	3500	2200	1505.17	583.18	1154.00	277.00	0.0	0.0	-1.3	2.6	0.0	100	100
4	3	1	MOVE	3500	2200	-73.02	786.07	20.50	145.50	31.1	32.8	-4.1	-1.7	-1.7	100	100
4	3	2	MOVE	3500	2200	-51.33	883.33	20.50	244.50	31.5	31.3	0.1	-2.3	0.3	100	100
4	3	3	MOVE	3500	2200	-33.56	982.42	20.50	344.50	30.3	30.0	0.1	-2.1	0.3	100	100
4	3	4	MOVE	3500	2200	-15.80	1081.52	20.50	444.50	32.6	32.5	0.1	-1.8	0.1	100	100
4	3	6	MOVE	3500	2200	19.69	1279.46	20.50	644.50	31.2	30.9	-0.0	-2.1	0.3	100	100
4	3	7	MOVE	3500	2200	37.37	1378.17	20.50	744.50	34.7	34.4	-0.2	-2.5	0.3	100	100
4	3	8	MOVE	3500	2200	54.88	1475.80	20.50	843.50	27.5	27.1	-0.3	-3.0	0.4	100	100
4	3	9	MOVE	3500	2200	72.55	1574.39	20.50	943.50	30.2	29.9	-0.5	-3.5	0.2	100	100
4	3	10	MOVE	3500	2200	90.28	1673.25	20.50	1043.50	37.6	37.2	-0.6	-3.7	0.5	100	100
4	3	11	MOVE	3500	2200	108.09	1772.71	20.50	1143.50	54.2	54.4	-0.6	-3.4	-0.1	100	100
4	3	12	MOVE	3500	2200	125.96	1872.18	20.50	1243.50	34.0	33.7	-0.5	-3.0	0.3	100	100
4	3	13	MOVE	3500	2200	143.83	1971.68	20.50	1343.50	37.2	36.9	-0.5	-2.7	0.3	100	100
4	3	14	MOVE	3500	2200	161.56	2070.37	20.50	1442.50	34.7	34.5	-0.4	-2.1	0.2	100	100
4	3	15	MOVE	3500	2200	179.48	2170.15	20.50	1542.50	33.9	33.8	-0.3	-1.4	0.2	100	100
4	3	16	MOVE	3500	2200	197.42	2269.94	20.50	1642.50	34.3	34.0	-0.2	-0.8	0.3	100	100
4	3	17	MOVE	3500	2200	215.26	2369.35	20.50	1742.50	26.1	25.9	0.0	0.2	0.2	100	100
4	3	18	MOVE	3500	2200	233.01	2468.42	20.50	1842.50	26.5	26.3	0.2	1.5	0.2	100	100
4	3	19	MOVE	3500	2200	250.73	2567.24	20.50	1942.50	26.1	26.0	0.5	2.8	0.1	100	100
4	3	20	MOVE	3500	2200	268.44	2665.78	20.50	2042.50	30.5	30.4	0.8	3.7	0.1	100	100
4	3	21	MOVE	3500	2200	286.01	2763.15	20.50	2141.50	29.8	29.6	1.0	4.5	0.2	100	100
4	3	22	MOVE	3500	2200	303.73	2861.54	20.50	2241.50	25.4	25.1	1.3	5.3	0.3	100	100
4	3	23	MOVE	3500	2200	321.48	2959.92	20.50	2341.50	36.7	36.3	1.6	6.1	0.5	100	100
4	3	24	MOVE	3500	2200	339.18	3058.27	20.50	2441.50	29.6	29.3	1.8	6.9	0.3	100	100
4	3	25	MOVE	3500	2200	356.88	3156.55	20.50	2541.50	27.1	26.8	2.0	7.6	0.2	100	100
4	3	26	MOVE	3500	2200	374.35	3254.39	20.50	2641.50	32.1	32.1	2.0	7.9	0.0	100	100
4	3	27	MOVE	3500	2200	391.48	3350.77	20.50	2740.50	26.4	26.1	1.9	7.6	0.3	100	100
4	3	28	MOVE	3500	2200	408.77	3448.08	20.50	2840.50	26.8	26.5	1.7	7.4	0.3	100	100
4	3	29	MOVE	3500	2200	426.12	3545.59	20.50	2940.50	26.5	26.2	1.6	7.3	0.3	100	100
4	3	30	MOVE	3500	2200	443.63	3643.67	20.50	3040.50	29.3	29.0	1.7	7.8	0.3	100	100
4	3	31	MOVE	3500	2200	461.26	3742.17	20.50	3140.50	26.8	26.5	1.8	8.7	0.3	100	100
4	3	32	MOVE	3500	2200	478.97	3841.02	20.50	3240.50	25.5	25.3	1.9	9.3	0.2	100	100
4	3	33	MOVE	3500	2200	496.73	3940.11	20.50	3340.50	25.9	25.6	2.0	9.5	0.3	100	100
4	3	34	MOVE	3500	2200	626.05	3900.91	115.50	3334.50	27.5	27.1	2.2	9.8	0.4	100	100
4	3	35	MOVE	3500	2200	756.74	3873.47	211.50	3328.50	30.0	30.0	2.4	10.2	0.0	100	100
4	3	36	MOVE	3500	2200	840.92	3818.85	277.50	3294.50	26.1	25.9	2.6	10.3	0.2	100	100
4	3	54	MOVE	3500	2200	501.42	3950.45	22.50	3391.50	25.7	25.4	2.0	9.6	0.2	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
4	3	55	MOVE	3500	2200	585.62	3895.86	88.50	3515.33	25.4	25.2	2.1	9.7	0.2	100	100
4	3	56	MOVE	3500	2200	716.29	3862.35	184.48	3509.47	28.1	27.9	2.4	10.1	0.1	100	100
4	3	57	MOVE	3500	2200	847.17	3829.84	280.50	3504.93	27.0	26.9	2.6	10.4	0.0	100	100
4	3	58	MOVE	3500	2200	829.44	3750.94	280.49	3424.49	26.8	26.8	2.5	10.0	-0.0	100	100
4	3	59	MOVE	3500	2200	811.95	3633.26	280.49	3305.44	24.8	24.8	2.4	9.3	0.0	100	100
4	3	60	MOVE	3500	2200	794.35	3534.89	280.50	3205.55	24.0	24.0	2.3	8.4	-0.0	100	100
4	3	61	MOVE	3500	2200	776.99	3437.71	280.49	3106.52	28.1	28.1	2.2	7.8	0.0	100	100
4	3	62	MOVE	3500	2200	759.91	3341.41	280.51	3007.52	30.5	30.5	2.4	8.1	-0.0	100	100
4	3	63	MOVE	3500	2200	742.63	3244.15	280.49	2907.56	27.3	27.3	2.6	8.4	0.0	100	100
4	3	64	MOVE	3500	2200	725.54	3147.91	280.49	2808.68	25.7	25.7	2.8	8.7	-0.0	100	100
4	3	65	MOVE	3500	2200	708.12	3050.82	280.47	2709.57	25.6	25.6	2.7	8.3	0.0	100	100
4	3	66	MOVE	3500	2200	690.42	2952.45	280.50	2609.73	27.2	27.3	2.4	7.3	-0.1	100	100
4	3	67	MOVE	3500	2200	672.89	2855.25	280.48	2511.24	29.2	29.1	2.1	6.2	0.1	100	100
4	3	68	MOVE	3500	2200	655.14	2758.57	280.51	2210.77	30.8	30.6	1.8	5.6	0.2	100	100
4	3	69	MOVE	3500	2200	637.61	2659.37	280.50	2112.67	26.6	26.7	1.5	4.5	-0.0	100	100
4	3	70	MOVE	3500	2200	620.07	2561.91	280.52	2013.50	31.7	31.6	1.2	3.6	0.1	100	100
4	3	71	MOVE	3500	2200	602.33	2463.53	280.49	1913.39	28.3	28.3	1.0	2.7	-0.0	100	100
4	3	72	MOVE	3500	2200	584.77	2366.37	280.48	1814.40	33.4	33.3	0.7	1.5	0.0	100	100
4	3	73	MOVE	3500	2200	567.14	2267.81	280.50	1715.42	27.7	27.6	0.5	0.5	0.1	100	100
4	3	74	MOVE	3500	2200	549.20	2168.01	280.49	1615.44	27.2	27.2	0.4	-0.1	-0.0	100	100
4	3	75	MOVE	3500	2200	531.44	2069.18	280.49	1516.50	28.0	28.0	0.3	-0.7	0.1	100	100
4	3	76	MOVE	3500	2200	513.51	1969.42	280.49	1416.53	31.1	31.1	0.2	-1.4	-0.0	100	100
4	3	77	MOVE	3500	2200	495.80	1870.78	280.50	1317.48	29.4	29.3	0.1	-1.8	0.0	100	100
4	3	78	MOVE	3500	2200	478.22	1772.75	280.50	1218.51	30.6	30.4	0.2	-1.6	0.1	100	100
4	3	79	MOVE	3500	2200	460.52	1673.88	280.51	1118.53	25.8	25.9	0.3	-1.5	-0.0	100	100
4	3	80	MOVE	3500	2200	442.96	1576.02	280.48	1019.60	32.2	32.2	0.4	-1.3	-0.0	100	100
4	3	81	MOVE	3500	2200	425.44	1478.11	280.51	920.56	28.9	28.9	0.5	-1.1	0.0	100	100
4	3	82	MOVE	3500	2200	407.72	1379.25	280.50	820.60	29.9	29.9	0.6	-0.8	0.1	100	100
4	3	83	MOVE	3500	2200	390.19	1281.40	280.51	721.69	37.0	36.8	0.7	-0.6	0.2	100	100
4	3	84	MOVE	3500	2200	372.47	1182.55	280.50	621.71	38.8	38.7	0.8	-0.4	0.2	100	100
4	3	85	MOVE	3500	2200	354.94	1084.69	280.49	522.83	29.3	29.2	0.9	-0.5	0.0	100	100
4	3	86	MOVE	3500	2200	337.39	986.70	280.50	423.93	32.7	32.7	0.8	-0.8	-0.0	100	100
4	3	87	MOVE	3500	2200	319.70	887.91	280.50	324.80	32.1	32.4	0.7	-1.3	-0.4	100	100
4	3	88	MOVE	3500	2200	302.12	789.78	280.51	225.64	33.1	33.2	0.7	-1.5	-0.0	100	100
4	3	89	MOVE	3500	2200	284.52	691.64	280.50	126.11	29.3	29.2	0.7	-1.6	0.1	100	100
4	3	90	MOVE	3500	2200	153.68	724.26	184.50	131.53	33.1	33.1	0.4	-2.1	0.0	100	100
4	3	92	MOVE	3500	2200	-61.54	813.41	22.51	171.47	34.9	34.8	0.1	-2.5	0.1	100	100
4	3	110	MOVE	3500	2200	286.30	725.41	277.50	139.50	40.4	40.1	0.7	-1.7	0.3	100	100
4	3	111	MOVE	3500	2200	195.37	718.68	211.50	134.50	36.6	35.7	4.6	-2.9	0.9	100	100
4	3	112	MOVE	3500	2200	80.43	752.02	115.50	159.50	31.1	30.9	0.3	-2.3	0.2	100	100
4	4	2	FIX	3500	2200	2722.55	3071.89	1696.32	2933.48	48.7*******		0.0	0.0**********		100	100
4	4	3	FIX	3500	2200	2623.46	2196.17	1737.52	2000.54	64.9*******		0.0	0.0**********		100	100
4	4	4	FIX	3500	2200	1339.27	3594.14	657.86	3180.12	55.2*******		0.0	0.0**********		100	100
4	4	5	FIX	3500	2200	2222.16	3093.82	1342.72	2883.43	22.9*******		0.0	0.0**********		100	100
4	4	6	FIX	3500	2200	1081.34	1653.15	721.07	1230.67	56.1*******		0.0	0.0**********		100	100
4	4	7	FIX	3500	2200	1465.30	1026.01	1071.13	701.50	39.1*******		0.0	0.0**********		100	100
4	4	8	FIX	3500	2200	1968.75	1383.24	1380.05	1154.14	37.6*******		0.0	0.0**********		100	100
4	4	9	FIX	3500	2200	2829.71	1206.49	2007.21	1157.05	48.7*******		0.0	0.0**********		100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
4	4	10	FIX	3500	2200	3147.56	988.53	2256.70	1012.11	30.0	********	0.0	0.0	*********	100	100
4	4	11	FIX	3500	2200	3218.84	2362.30	2133.13	2390.40	30.0	********	0.0	0.0	*********	100	100
4	4	13	FIX	3500	2200	328.58	1004.47	272.71	430.00	30.7	********	0.0	0.0	*********	100	100
4	4	14	FIX	3500	2200	737.80	1694.15	473.91	1199.00	30.3	********	0.0	0.0	*********	100	100
4	4	15	FIX	3500	2200	565.03	2262.53	279.90	1709.99	30.2	********	0.0	0.0	*********	100	100
4	4	17	FIX	3500	2200	1173.29	3001.00	531.66	2211.89	29.3	********	0.0	0.0	*********	100	100
4	4	19	FIX	3500	2200	2870.36	770.15	2089.20	740.20	44.1	********	0.0	0.0	*********	100	100
4	4	21	FIX	3500	2200	764.46	997.54	580.59	520.09	39.7	********	0.0	0.0	*********	100	100
4	4	22	FIX	3500	2200	1166.14	2290.89	700.05	1800.07	39.3	********	0.0	0.0	*********	100	100
4	4	23	FIX	3500	2200	1387.79	2879.64	781.97	2470.74	32.9	********	0.0	0.0	*********	100	100
4	4	24	FIX	3500	2200	2310.75	1408.97	1617.06	1240.90	31.6	********	0.0	0.0	*********	100	100
4	4	25	FIX	3500	2200	1620.73	1963.60	1062.08	1630.89	41.0	********	0.0	0.0	*********	100	100
4	6	4	MOVE	3500	2200	3209.82	2953.89	2052.64	2957.93	25.3	24.1	1.7	0.2	1.3	100	100
4	6	5	MOVE	3500	2200	3194.16	2858.15	2053.46	2839.71	29.4	31.5	1.7	-0.1	-2.0	100	100
4	6	6	MOVE	3500	2200	3178.52	2761.67	2054.43	2740.00	29.5	31.6	1.5	-0.5	-2.2	100	100
4	6	7	MOVE	3500	2200	3163.51	2667.47	2055.72	2640.30	23.7	22.9	0.6	-3.2	0.8	100	100
4	6	8	MOVE	3500	2200	3147.86	2571.58	2056.58	2540.46	28.0	28.7	0.4	-4.2	-0.7	100	100
4	6	9	MOVE	3500	2200	3132.51	2478.17	2057.26	2454.73	24.9	23.7	0.1	-6.8	1.2	100	100
4	6	10	MOVE	3500	2200	3000.81	2506.49	1961.56	2459.63	32.4	31.1	0.0	-6.3	1.3	100	100
4	6	11	MOVE	3500	2200	2869.36	2534.64	1866.35	2490.38	25.0	25.1	-0.3	-5.6	-0.0	100	100
4	6	12	MOVE	3500	2200	2739.05	2563.98	1771.47	2499.47	23.2	23.1	-0.2	-5.4	0.1	100	100
4	6	13	MOVE	3500	2200	2607.36	2592.79	1675.91	2480.25	28.2	28.0	-0.3	-5.3	0.2	100	100
4	6	16	MOVE	3500	2200	2215.70	2684.71	1389.21	2464.30	24.3	24.3	-0.5	-2.8	-0.1	100	100
4	6	17	MOVE	3500	2200	2084.55	2714.59	1293.30	2464.43	33.1	32.6	-0.5	-1.5	0.5	100	100
4	6	18	MOVE	3500	2200	1954.54	2743.28	1197.81	2469.88	34.5	44.3	-0.1	0.3	-9.8	100	100
4	6	19	MOVE	3500	2200	1823.23	2775.33	1101.63	2480.40	33.9	34.7	0.0	0.5	-0.9	100	100
4	6	20	MOVE	3500	2200	1691.78	2804.93	1005.37	2467.30	32.0	32.5	0.0	0.7	-0.5	100	100
4	6	21	MOVE	3500	2200	1561.84	2834.43	910.31	2469.29	23.8	24.8	-0.2	0.1	-1.0	100	100
4	6	22	MOVE	3500	2200	1429.91	2863.21	813.63	2470.44	24.2	24.0	-0.1	-0.8	0.2	100	100
4	6	23	MOVE	3500	2200	1298.02	2890.19	717.31	2470.41	29.8	28.8	0.1	0.5	1.0	100	100
4	6	24	MOVE	3500	2200	1167.57	2918.04	621.76	2473.47	27.7	28.1	0.3	1.5	-0.5	100	100
4	6	25	MOVE	3500	2200	1035.53	2943.70	525.54	2474.47	30.2	31.4	0.5	4.0	-1.2	100	100
4	6	28	MOVE	3500	2200	641.12	3025.84	237.54	2474.34	27.5	28.3	1.0	7.0	-0.7	100	100
4	6	43	MOVE	3500	2200	1118.23	3673.96	490.50	3202.50	25.9	28.0	0.4	1.1	-2.1	100	100
4	6	48	MOVE	3500	2200	1516.18	3573.24	784.50	3204.50	24.7	27.2	-0.4	-1.8	-2.5	100	100
4	6	49	MOVE	3500	2200	1913.93	3469.65	1077.50	3181.50	29.4	34.1	-1.0	-1.8	-4.7	100	100
4	6	301	MOVE	3500	2200	877.75	3017.04	405.00	2515.00	0.0	0.0	1.1	6.8	0.0	100	100
4	6	302	MOVE	3500	2200	456.54	3126.59	95.00	2532.00	0.0	0.0	1.3	8.5	0.0	100	100
4	6	303	MOVE	3500	2200	528.73	3106.15	138.00	2600.00	0.0	0.0	1.6	8.3	0.0	100	100
4	6	304	MOVE	3500	2200	612.45	3152.06	201.00	2690.00	0.0	0.0	1.8	8.0	0.0	100	100
4	6	305	MOVE	3500	2200	750.28	3163.54	297.00	2830.00	0.0	0.0	1.2	8.3	0.0	100	100
4	6	306	MOVE	3500	2200	758.96	3065.98	315.00	2830.00	0.0	0.0	1.6	7.6	0.0	100	100
4	6	307	MOVE	3500	2200	862.00	3126.96	380.00	2810.00	0.0	0.0	1.3	7.4	0.0	100	100
4	6	308	MOVE	3500	2200	1338.79	2899.30	745.00	2487.00	0.0	0.0	-0.0	0.6	0.0	100	100
4	6	309	MOVE	3500	2200	1344.07	2913.38	747.00	2502.00	0.0	0.0	-0.1	-0.7	0.0	100	100
4	6	311	MOVE	3500	2200	1495.21	2814.16	866.00	2436.00	0.0	0.0	-0.3	-0.3	0.0	100	100
4	6	312	MOVE	3500	2200	1391.84	2983.48	772.00	2570.00	0.0	0.0	0.4	1.2	0.0	100	100
4	6	313	MOVE	3500	2200	1158.69	3072.54	596.00	2602.00	0.0	0.0	0.7	4.4	0.0	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
4	6	314	MJVE	3500	2200	1029.31	2953.04	520.00	2480.00	0.0	0.0	0.6	4.4	0.0	100	100
4	6	315	MJVE	3500	2200	981.99	3003.69	479.00	2529.00	0.0	0.0	2.7	6.9	0.0	100	100
4	6	316	MJVE	3500	2200	1012.70	3110.85	488.00	2632.00	0.0	0.0	1.4	6.8	0.0	100	100
4	6	317	MJVE	3500	2200	1179.93	2937.09	628.00	2464.00	0.0	0.0	0.5	2.0	0.0	100	100
4	6	318	MJVE	3500	2200	1690.34	2775.38	1008.00	2439.00	0.0	0.0	-0.0	-0.3	0.0	100	100
4	6	319	MJVE	3500	2200	1623.59	2862.23	950.00	2509.00	0.0	0.0	0.3	0.9	0.0	100	100
4	6	320	MJVE	3500	2200	1573.18	2874.69	913.00	2511.00	0.0	0.0	0.2	0.6	0.0	100	100
4	6	321	MJVE	3500	2200	1789.18	2978.71	1052.00	2609.00	0.0	0.0	0.3	1.6	0.0	100	100
4	6	322	MJVE	3500	2200	1830.28	2949.30	1085.00	2639.00	0.0	0.0	0.3	1.2	0.0	100	100
4	6	323	MJVE	3500	2200	2036.18	2887.47	1238.00	2621.00	0.0	0.0	0.5	2.2	0.0	100	100
4	6	324	MJVE	3500	2200	1803.55	2710.61	1096.00	2488.00	0.0	0.0	-0.4	-1.1	0.0	100	100
4	6	325	MJVE	3500	2200	1916.85	2796.02	1165.00	2567.00	0.0	0.0	-0.1	-0.4	0.0	100	100
4	6	326	MJVE	3500	2200	1986.65	2755.83	1219.00	2483.00	0.0	0.0	-0.0	-0.4	0.0	100	100
4	6	327	MJVE	3500	2200	1706.56	2869.78	1008.00	2634.00	0.0	0.0	0.4	1.3	0.0	100	100
4	6	328	MJVE	3500	2200	2208.65	2753.30	1376.00	2526.00	0.0	0.0	-0.3	-1.4	0.0	100	100
4	6	329	MJVE	3500	2200	2226.23	2811.60	1381.00	2589.00	0.0	0.0	0.5	-0.1	0.0	100	100
4	6	330	MJVE	3500	2200	2350.28	2706.51	1481.00	2514.00	0.0	0.0	0.2	-2.3	0.0	100	100
4	6	331	MJVE	3500	2200	2324.09	2848.19	1445.00	2645.00	0.0	0.0	0.0	0.9	0.0	100	100
4	6	332	MJVE	3500	2200	2459.71	2731.32	1555.00	2562.00	0.0	0.0	0.5	-2.1	0.0	100	100
4	6	333	MJVE	3500	2200	2586.97	2651.12	1658.00	2495.00	0.0	0.0	0.3	-4.1	0.0	100	100
4	6	334	MJVE	3500	2200	2515.72	2581.24	1613.00	2430.00	0.0	0.0	0.8	-6.2	0.0	100	100
4	6	335	MJVE	3500	2200	2699.31	2531.58	1748.00	2420.00	0.0	0.0	0.7	-6.1	0.0	100	100
4	6	336	MJVE	3500	2200	2891.69	2560.33	1879.00	2486.00	0.0	0.0	0.6	-5.0	0.0	100	100
4	6	337	MJVE	3500	2200	2934.45	2614.21	1902.00	2547.00	0.0	0.0	0.3	-4.2	0.0	100	100
4	6	338	MJVE	3500	2200	2986.96	2629.47	1937.00	2572.00	0.0	0.0	0.4	-3.5	0.0	100	100
4	6	339	MJVE	3500	2200	2993.49	2726.39	1929.00	2668.00	0.0	0.0	0.6	-1.9	0.0	100	100
4	6	340	MJVE	3500	2200	3025.54	2538.79	1975.00	2492.00	0.0	0.0	0.1	-5.6	0.0	100	100
4	6	341	MJVE	3500	2200	3044.45	2600.18	1979.00	2555.00	0.0	0.0	0.3	-4.3	0.0	100	100
4	6	342	MJVE	3500	2200	3143.60	2592.85	2051.00	2568.00	0.0	0.0	0.5	-3.6	0.0	100	100
4	6	343	MJVE	3500	2200	2725.97	2757.41	1738.00	2644.00	0.0	0.0	0.3	-1.3	0.0	100	100
4	6	344	MJVE	3500	2200	2650.46	2719.95	1690.00	2592.00	0.0	0.0	-0.0	-2.0	0.0	100	100
4	6	345	MJVE	3500	2200	3147.71	2428.69	2074.00	2410.00	0.0	0.0	0.1	-8.0	0.0	100	100
4	6	346	MJVE	3500	2200	3158.78	2497.78	2073.00	2479.00	0.0	0.0	0.6	-6.2	0.0	100	100
4	6	347	MJVE	3500	2200	3212.97	2623.61	2098.00	2610.00	0.0	0.0	1.1	-3.3	0.0	100	100
4	6	348	MJVE	3500	2200	2989.97	2843.98	1912.00	2783.00	0.0	0.0	0.9	-0.5	0.0	100	100
4	6	349	MJVE	3500	2200	2957.28	2923.68	1879.00	2859.00	0.0	0.0	1.2	-0.0	0.0	100	100
4	6	350	MJVE	3500	2200	2910.77	2888.25	1851.00	2810.00	0.0	0.0	0.6	-0.4	0.0	100	100
4	6	351	MJVE	3500	2200	3074.54	2919.53	1962.00	2870.00	0.0	0.0	1.2	-0.3	0.0	100	100
4	6	352	MJVE	3500	2200	3223.36	2871.00	2072.00	2809.00	0.0	0.0	2.2	-0.5	0.0	100	100
4	6	353	MJVE	3500	2200	3206.93	2799.10	2070.00	2744.00	0.0	0.0	1.2	-0.5	0.0	100	100
4	6	354	MJVE	3500	2200	3080.67	2817.24	1979.00	2775.00	0.0	0.0	1.1	-0.1	0.0	100	100
4	6	355	MJVE	3500	2200	3222.05	3132.88	2039.00	3119.00	0.0	0.0	0.7	-3.4	0.0	100	100
4	6	356	MJVE	3500	2200	3279.65	3186.37	2072.00	3165.00	0.0	0.0	-0.4	-5.6	0.0	100	100
4	6	357	MJVE	3500	2200	2980.98	3235.63	1857.00	3174.00	0.0	0.0	-0.3	-4.7	0.0	100	100
4	6	358	MJVE	3500	2200	3213.39	3016.66	2047.00	3001.00	0.0	0.0	1.2	-0.8	0.0	100	100
4	6	359	MJVE	3500	2200	2918.77	3060.57	1835.00	2983.00	0.0	0.0	0.9	-0.6	0.0	100	100
4	6	360	MJVE	3500	2200	2876.74	3311.59	1774.00	3229.00	0.0	0.0	-0.4	-0.2	0.0	100	100
4	6	361	MJVE	3500	2200	2493.89	3381.88	1497.00	3210.00	0.0	0.0	-2.0	-5.6	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
4	6	362	MOVE	3500	2200	2656.62	3390.89	1610.00	3299.00	0.0	0.0	-1.8	-7.3	0.0	100	100
4	6	363	MOVE	3500	2200	2497.09	3301.62	1509.00	3150.00	0.0	0.0	-1.1	-3.4	0.0	100	100
4	6	364	MOVE	3500	2200	2414.80	3462.50	1431.00	3261.00	0.0	0.0	-2.2	-7.8	0.0	100	100
4	6	365	MOVE	3500	2200	2259.14	3473.70	1320.00	3259.00	0.0	0.0	-1.8	-6.1	0.0	100	100
4	6	366	MOVE	3500	2200	2252.48	3348.64	1331.00	3131.00	0.0	0.0	-0.8	-1.6	0.0	100	100
4	6	367	MOVE	3500	2200	2066.02	3465.52	1185.00	3240.00	0.0	0.0	-1.3	-3.8	0.0	100	100
4	6	368	MOVE	3500	2200	1998.45	3539.12	1128.00	3270.00	0.0	0.0	-1.4	-5.6	0.0	100	100
4	6	369	MOVE	3500	2200	1963.57	3480.98	1111.00	3203.00	0.0	0.0	-1.1	-2.3	0.0	100	100
4	6	370	MOVE	3500	2200	1858.18	3438.17	1042.00	3158.00	0.0	0.0	-0.3	-0.4	0.0	100	100
4	6	371	MOVE	3500	2200	2097.48	3413.34	1213.00	3160.00	0.0	0.0	0.7	1.3	0.0	100	100
4	6	373	MOVE	3500	2200	1595.29	3557.53	842.00	3283.00	0.0	0.0	-0.4	-1.5	0.0	100	100
4	6	374	MOVE	3500	2200	1511.52	3635.57	773.00	3284.00	0.0	0.0	-0.7	-3.1	0.0	100	100
4	6	375	MOVE	3500	2200	1415.45	3692.62	698.00	3301.00	0.0	0.0	-0.6	-3.7	0.0	100	100
4	6	376	MOVE	3500	2200	1424.73	3574.99	720.00	3184.00	0.0	0.0	0.0	-0.3	0.0	100	100
4	6	378	MOVE	3500	2200	1734.15	3448.41	953.00	3121.00	0.0	0.0	0.7	1.0	0.0	100	100
4	6	379	MOVE	3500	2200	1188.86	3714.17	535.00	3276.00	0.0	0.0	0.3	-1.4	0.0	100	100
4	6	381	MOVE	3500	2200	1161.82	3553.54	536.00	3113.00	0.0	0.0	0.8	2.1	0.0	100	100
4	6	382	MOVE	3500	2200	965.87	3654.66	385.00	3184.00	0.0	0.0	0.9	3.7	0.0	100	100
4	6	383	MOVE	3500	2200	882.88	3717.57	320.00	3210.00	0.0	0.0	0.9	2.6	0.0	100	100
4	6	384	MOVE	3500	2200	954.59	3762.40	365.00	3271.00	0.0	0.0	0.2	0.5	0.0	100	100
4	6	385	MOVE	3500	2200	1059.77	3749.32	440.00	3281.00	0.0	0.0	0.8	-0.7	0.0	100	100
4	6	386	MOVE	3500	2200	1132.79	3747.89	492.00	3290.00	0.0	0.0	-0.0	-1.9	0.0	100	100
4	6	387	MOVE	3500	2200	1033.28	3683.10	430.00	3241.00	0.0	0.0	0.4	2.1	0.0	100	100
4	6	390	MOVE	3500	2200	654.43	3853.98	142.00	3297.00	0.0	0.0	0.9	1.7	0.0	100	100
4	6	395	MOVE	3500	2200	703.47	3675.18	199.00	3128.00	0.0	0.0	1.7	5.6	0.0	100	100
4	6	397	MOVE	3500	2200	808.68	3423.54	304.00	2903.00	0.0	0.0	1.9	8.0	0.0	100	100
4	6	398	MOVE	3500	2200	902.07	3414.14	372.00	2911.00	0.0	0.0	1.1	6.4	0.0	100	100
4	6	399	MOVE	3500	2200	663.21	3560.49	185.00	3004.00	0.0	0.0	2.2	7.9	0.0	100	100
4	6	400	MOVE	3500	2200	516.95	3587.01	79.00	2999.00	0.0	0.0	2.1	8.6	0.0	100	100
4	6	401	MOVE	3500	2200	428.50	3531.51	24.00	2924.00	0.0	0.0	2.1	10.3	0.0	100	100
4	6	402	MOVE	3500	2200	480.08	3437.98	72.00	2843.00	0.0	0.0	2.0	9.7	0.0	100	100
4	6	404	MOVE	3500	2200	611.00	3504.78	156.00	2937.00	0.0	0.0	1.5	9.1	0.0	100	100
4	6	405	MOVE	3500	2200	747.81	3508.16	252.00	2900.00	0.0	0.0	1.3	8.1	0.0	100	100
4	6	406	MOVE	3500	2200	446.53	3138.62	86.00	2542.00	0.0	0.0	1.9	8.1	0.0	100	100
4	6	407	MOVE	3500	2200	386.85	3171.99	40.00	2584.00	0.0	0.0	1.7	8.7	0.0	100	100
4	6	408	MOVE	3500	2200	424.16	3205.81	62.00	2604.00	0.0	0.0	1.6	8.9	0.0	100	100
4	6	409	MOVE	3500	2200	448.16	3015.87	103.00	2424.00	0.0	0.0	0.8	5.4	0.0	100	100
5	3	32	MOVE	900	5300	402.15	1412.77	328.06	1087.02	27.4	22.0	3.2	11.5	5.4	100	100
5	3	38	MOVE	900	5300	1203.19	1200.59	1153.75	1021.00	24.8	20.1	0.8	9.4	4.6	100	100
5	3	40	MOVE	900	5300	1469.06	1137.54	1427.64	998.40	23.3	17.5	0.7	8.9	5.9	100	100
5	3	41	MOVE	900	5300	1602.35	1102.38	1564.57	980.28	23.0	17.7	0.9	8.8	5.4	100	100
5	3	43	MOVE	900	5300	2136.02	964.02	2114.19	940.49	20.7	18.1	0.3	8.3	8.6	100	100
5	3	91	MOVE	900	5300	2786.44	91.57	2900.50	200.50	25.5	19.6	-0.5	-0.1	5.9	100	100
5	3	96	MOVE	900	5300	2315.09	205.37	2417.50	234.50	25.4	19.6	-1.1	-1.5	6.4	100	100
5	3	97	MOVE	900	5300	2220.14	227.79	2320.50	241.50	25.2	18.8	-1.5	-2.4	5.7	100	100
5	3	99	MOVE	900	5300	2031.15	271.74	2127.50	259.50	25.7	17.9	-2.5	-4.8	4.5	100	100
5	3	104	MOVE	900	5300	1561.16	386.69	1644.50	269.50	24.1	19.7	-1.7	-5.1	0.0	100	100
5	3	301	MOVE	900	5300	307.63	629.73	368.00	317.00	0.0	0.0	-0.5	-4.4			

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTER FRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
3	303	MOVE	900	5300	397.81	599.41	462.00	303.00	0.0	0.0	-0.7	-5.1	0.0	100	100
3	304	MOVE	900	5300	773.93	583.41	836.00	339.00	0.0	0.0	-1.5	-4.4	0.0	100	100
3	305	MOVE	900	5300	844.66	559.77	909.00	339.00	0.0	0.0	-0.9	-4.8	0.0	100	100
3	306	MOVE	900	5300	942.00	474.84	1019.00	273.00	0.0	0.0	-1.0	-6.1	0.0	100	100
3	307	MOVE	900	5300	860.55	640.62	911.00	421.00	0.0	0.0	-0.9	-4.5	0.0	100	100
3	308	MOVE	900	5300	1343.18	405.49	1427.00	274.00	0.0	0.0	-2.2	-5.7	0.0	100	100
3	309	MOVE	900	5300	1135.75	546.05	1199.00	314.00	0.0	0.0	-1.9	-4.2	0.0	100	100
3	310	MOVE	900	5300	1256.97	544.05	1319.00	392.00	0.0	0.0	-2.1	-3.7	0.0	100	100
3	311	MOVE	900	5300	1380.46	476.66	1452.00	348.00	0.0	0.0	-2.3	-5.3	0.0	100	100
3	313	MOVE	900	5300	1707.50	508.91	1769.00	433.00	0.0	0.0	-2.3	-3.7	0.0	100	100
3	314	MOVE	900	5300	1626.17	385.11	1709.00	299.00	0.0	0.0	-1.9	-5.2	0.0	100	100
3	315	MOVE	900	5300	1781.28	384.32	1868.00	324.00	0.0	0.0	-2.9	-4.5	0.0	100	100
3	316	MOVE	900	5300	1842.51	292.40	1938.00	249.00	0.0	0.0	-2.4	-5.9	0.0	100	100
3	317	MOVE	900	5300	1893.03	439.35	1963.00	397.00	0.0	0.0	-2.1	-4.7	0.0	100	100
3	318	MOVE	900	5300	1961.15	418.74	2034.00	368.00	0.0	0.0	-2.5	-4.4	0.0	100	100
3	319	MOVE	900	5300	2225.04	297.89	2314.00	312.00	0.0	0.0	-2.1	-2.9	0.0	100	100
3	320	MOVE	900	5300	2410.53	203.05	2512.00	248.00	0.0	0.0	-1.2	-1.1	0.0	100	100
3	321	MOVE	900	5300	2838.89	193.18	2935.00	309.00	0.0	0.0	-0.4	0.3	0.0	100	100
3	322	MOVE	900	5300	2800.90	165.48	2902.00	270.00	0.0	0.0	-0.3	-0.4	0.0	100	100
3	324	MOVE	900	5300	2788.61	88.21	2903.00	198.00	0.0	0.0	-0.4	-0.6	0.0	100	100
3	325	MOVE	900	5300	2857.69	336.18	2930.00	324.00	0.0	0.0	-1.1	-0.6	0.0	100	100
3	327	MOVE	900	5300	2690.30	14.84	2819.00	114.00	0.0	0.0	-1.0	-1.3	0.0	100	100
3	328	MOVE	900	5300	2842.28	-4.94	2972.00	115.00	0.0	0.0	-0.8	-0.3	0.0	100	100
3	329	MOVE	900	5300	2894.20	389.39	2957.00	312.00	0.0	0.0	-1.0	0.0	0.0	100	100
3	332	MOVE	900	5300	2733.91	582.58	2766.00	673.00	0.0	0.0	0.0	2.1	0.0	100	100
3	333	MOVE	900	5300	2682.92	587.16	2716.00	669.00	0.0	0.0	-1.0	2.1	0.0	100	100
3	337	MOVE	900	5300	2881.77	812.33	2874.00	916.00	0.0	0.0	0.3	10.4	0.0	100	100
3	338	MOVE	900	5300	2779.94	707.87	2791.00	800.00	0.0	0.0	-0.0	6.2	0.0	100	100
3	339	MOVE	900	5300	2743.14	855.10	2751.00	934.00	0.0	0.0	-0.2	10.9	0.0	100	100
3	340	MOVE	900	5300	2647.72	779.09	2648.00	847.00	0.0	0.0	0.9	6.7	0.0	100	100
3	341	MOVE	900	5300	2354.47	945.98	2332.00	998.00	0.0	0.0	0.8	10.1	0.0	100	100
3	342	MOVE	900	5300	2316.21	933.80	2296.00	991.00	0.0	0.0	0.9	8.6	0.0	100	100
3	343	MOVE	900	5300	2398.35	1016.95	2383.00	1053.00	0.0	0.0	1.4	12.3	0.0	100	100
3	344	MOVE	900	5300	2519.88	757.38	2526.00	809.00	0.0	0.0	0.6	5.6	0.0	100	100
3	345	MOVE	900	5300	2512.51	865.23	2501.00	907.00	0.0	0.0	0.7	8.5	0.0	100	100
3	346	MOVE	900	5300	2206.61	979.75	2181.00	967.00	0.0	0.0	0.5	9.3	0.0	100	100
3	347	MOVE	900	5300	2112.27	823.85	2113.00	809.00	0.0	0.0	-0.1	3.8	0.0	100	100
3	348	MOVE	900	5300	2058.87	1017.07	2029.00	979.00	0.0	0.0	0.7	8.9	0.0	100	100
3	349	MOVE	900	5300	1882.65	929.25	1871.00	888.00	0.0	0.0	-0.6	5.9	0.0	100	100
3	350	MOVE	900	5300	1606.12	1103.82	1568.00	988.00	0.0	0.0	1.0	9.1	0.0	100	100
3	351	MOVE	900	5300	1403.39	1013.89	1383.00	973.00	0.0	0.0	-0.2	5.8	0.0	100	100
3	352	MOVE	900	5300	1306.72	1069.19	1278.00	998.00	0.0	0.0	1.0	5.2	0.0	100	100
3	353	MOVE	900	5300	1334.86	1162.75	1290.00	1081.00	0.0	0.0	1.7	8.7	0.0	100	100
3	354	MOVE	900	5300	1370.63	1218.46	1316.00	1128.00	0.0	0.0	2.2	12.4	0.0	100	100
3	355	MOVE	900	5300	797.02	1221.89	751.00	970.00	0.0	0.0	0.7	8.2	0.0	100	100
3	356	MOVE	900	5300	872.19	1149.33	837.00	914.00	0.0	0.0	0.5	5.4	0.0	100	100
3	357	MOVE	900	5300	1138.46	1244.66	1084.00	1047.00	0.0	0.0	0.8	11.2	0.0	100	100
3	358	MOVE	900	5300	988.09	1144.78	953.00	926.00	0.0	0.0	-0.4	6.6	0.0	100	100

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTER LINE	FRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
5	3	359	MJVE	900 5300	1172.49	1089.85	1143.00	905.00	0.0	0.0	0.4	5.4	0.0	100	100
5	3	360	MJVE	900 5300	421.13	1383.43	351.00	1064.00	0.0	0.0	3.5	9.6	0.0	100	100
5	3	361	MJVE	900 5300	578.28	1408.55	503.00	1112.00	0.0	0.0	2.6	13.0	0.0	100	100
5	3	362	MJVE	900 5300	433.70	1303.32	379.00	980.00	0.0	0.0	1.7	8.6	0.0	100	100
5	3	363	MJVE	900 5300	534.95	1279.16	482.00	982.00	0.0	0.0	2.0	8.3	0.0	100	100
5	3	364	MJVE	900 5300	337.28	1022.93	330.00	704.00	0.0	0.0	1.2	0.6	0.0	100	100
5	3	365	MJVE	900 5300	335.50	1144.43	307.00	821.00	0.0	0.0	2.4	2.9	0.0	100	100
5	3	366	MJVE	900 5300	423.10	1141.23	395.00	836.00	0.0	0.0	1.3	3.6	0.0	100	100
5	3	367	MJVE	900 5300	654.06	1007.57	646.00	742.00	0.0	0.0	-0.2	1.1	0.0	100	100
5	3	368	MJVE	900 5300	670.57	1009.54	661.00	747.00	0.0	0.0	-0.7	0.6	0.0	100	100
5	3	369	MJVE	900 5300	377.23	882.47	394.00	575.00	0.0	0.0	-0.2	-1.8	0.0	100	100
5	3	370	MJVE	900 5300	380.71	755.50	418.00	452.00	0.0	0.0	-0.4	-3.4	0.0	100	100
5	3	371	MJVE	900 5300	519.48	688.38	567.00	410.00	0.0	0.0	-0.7	-3.9	0.0	100	100
5	3	372	MJVE	900 5300	521.28	841.46	543.00	559.00	0.0	0.0	-0.4	-1.9	0.0	100	100
5	5	1	FIX	900 5300	2101.77	2329.48	1848.51	2288.00	29.5*******		0.0	0.0**********		100	100
5	5	2	FIX	900 5300	1925.23	3068.23	1550.70	4980.73	48.2*******		0.0	0.0**********		100	100
5	5	3	FIX	900 5300	966.42	2975.44	623.27	2734.70	28.0*******		0.0	0.0**********		100	100
5	5	4	FIX	900 5300	679.23	3406.+1	267.60	3109.39	26.1*******		0.0	0.0**********		100	100
5	5	5	FIX	900 5300	2791.20	519.81	2832.63	822.98	30.1*******		0.0	0.0**********		100	100
5	5	6	FIX	900 5300	2614.72	1744.31	2452.54	1801.72	28.6*******		0.0	0.0**********		100	100
5	5	8	FIX	900 5300	1433.65	1661.98	1303.55	1517.37	30.8*******		0.0	0.0**********		100	100
5	5	9	FIX	900 5300	627.16	2194.45	418.94	1907.51	26.1*******		0.0	0.0**********		100	100
5	5	15	FIX	900 5300	2513.72	2651.00	2200.70	2074.84	24.7*******		0.0	0.0**********		100	100
5	5	16	FIX	900 5300	3059.92	2670.08	2735.32	2780.09	30.1*******		0.0	0.0**********		100	100
5	5	17	FIX	900 5300	2757.83	2045.14	2543.55	2118.03	24.1*******		0.0	0.0**********		100	100
5	5	18	FIX	900 5300	1609.57	414.07	1686.77	319.54	34.2*******		0.0	0.0**********		100	100
5	5	21	FIX	900 5300	798.88	2210.30	585.44	1957.48	27.1*******		0.0	0.0**********		100	100
5	5	22	FIX	900 5300	1193.95	2123.62	989.05	1936.06	24.6*******		0.0	0.0**********		100	100
5	5	23	FIX	900 5300	2190.07	1384.12	2095.53	1971.17	22.8*******		0.0	0.0**********		100	100
5	5	24	FIX	900 5300	1914.16	781.50	1925.46	721.50	23.8*******		0.0	0.0**********		100	100
5	5	25	FIX	900 5300	1390.40	1034.66	1366.58	892.88	23.2*******		0.0	0.0**********		100	100
5	5	26	FIX	900 5300	1007.78	1613.45	891.76	1599.20	64.0 64.0		0.0	0.0	0.0	100	100
5	6	1	MJVE	900 5300	2718.70	47.77	2841.39	140.66	23.7 18.5		-0.9	-0.8	5.2	100	100
5	6	5	MJVE	900 5300	2780.83	432.93	2837.34	529.55	26.8 21.0		-0.7	6.1	5.8	100	100
5	6	7	MJVE	900 5300	2813.74	629.03	2837.87	727.70	24.7 18.6		-0.3	6.7	6.1	100	100
5	6	8	MJVE	900 5300	2828.88	725.30	2835.80	825.27	27.2 22.1		0.5	7.4	5.0	100	100
5	6	9	MJVE	900 5300	2844.22	824.89	2833.68	924.95	25.0 18.5		1.2	7.6	6.4	100	100
5	6	10	MJVE	900 5300	2860.10	922.79	2832.82	1023.70	27.8 21.3		1.2	7.6	6.5	100	100
5	6	12	MJVE	900 5300	2892.25	1120.18	2831.36	1224.31	23.5 17.2		0.9	6.9	6.3	100	100
5	6	13	MJVE	900 5300	2907.90	1218.65	2829.96	1324.95	24.1 17.9		1.2	6.2	6.2	100	100
5	6	14	MJVE	900 5300	2924.41	1318.27	2829.65	1426.30	28.8 22.9		0.7	5.4	5.9	100	100
5	6	15	MJVE	900 5300	2940.36	1419.66	2828.78	1526.47	30.2 28.2		0.6	4.9	2.0	100	100
5	6	18	MJVE	900 5300	2987.15	1719.20	2824.60	1822.37	31.5 31.4		1.6	5.8	0.1	100	100
5	6	22	MJVE	900 5300	3056.79	2102.54	2832.90	2220.39	30.6 30.9		-4.0	6.9	-0.4	100	100
5	6	31	MJVE	900 5300	3194.94	2983.80	2814.69	3107.38	24.3 18.5		2.6	10.2	5.8	100	100
5	6	36	MJVE	900 5300	3210.37	3079.70	2813.55	3201.32	30.0 22.9		3.3	13.2	7.2	100	100
5	6	39	MJVE	900 5300	3200.94	3093.89	2803.50	3205.50	22.3 16.7		3.4	13.6	5.7	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTER FRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
6	60	MOVE	900	5300	3295.60	3064.03	2900.50	3200.50	25.7	18.6	3.0	13.0	7.0	100	100
6	61	MOVE	900	5300	3278.84	2965.25	2900.50	3103.50	28.0	22.4	2.5	9.9	5.6	100	100
6	62	MOVE	900	5300	3261.95	2867.38	2900.50	3000.50	27.2	23.4	1.9	7.7	3.7	100	100
6	63	MOVE	900	5300	3247.69	2768.64	2900.50	2900.50	27.1	42.9	4.0	4.7	-15.8	100	100
6	64	MOVE	900	5300	3228.57	2671.96	2900.50	2812.50	27.6	21.0	1.2	3.6	6.6	100	100
6	65	MOVE	900	5300	3212.23	2575.19	2900.50	2710.50	31.3	26.0	1.1	2.6	5.2	100	100
6	66	MOVE	900	5300	3195.43	2479.56	2900.50	2619.50	31.3	29.4	0.6	1.6	1.9	100	100
6	68	MOVE	900	5300	3162.54	2287.06	2900.50	2423.50	28.3	20.2	0.5	0.5	6.1	100	100
6	70	MOVE	900	5300	3125.22	2100.07	2900.50	2232.50	25.1	17.5	-4.3	3.9	7.6	100	100
6	302	MOVE	900	5300	2787.60	186.27	2886.00	292.00	0.0	0.0	-0.5	1.9	0.0	100	100
6	303	MOVE	900	5300	2779.01	159.76	2882.00	265.00	0.0	0.0	-0.6	1.3	0.0	100	100
6	304	MOVE	900	5300	2874.59	330.29	2947.00	440.00	0.0	0.0	0.4	4.3	0.0	100	100
6	305	MOVE	900	5300	2737.83	326.69	2812.00	419.00	0.0	0.0	1.3	4.6	0.0	100	100
6	306	MOVE	900	5300	2900.09	440.55	2954.00	558.00	0.0	0.0	0.1	5.3	0.0	100	100
6	307	MOVE	900	5300	2901.03	553.54	2934.00	673.00	0.0	0.0	1.4	6.5	0.0	100	100
6	308	MOVE	900	5300	2825.30	633.60	2847.00	758.00	0.0	0.0	1.2	7.7	0.0	100	100
6	310	MOVE	900	5300	2781.18	685.95	2795.00	777.00	0.0	0.0	0.6	5.3	0.0	100	100
6	311	MOVE	900	5300	2846.40	420.39	2904.00	529.00	0.0	0.0	1.3	6.3	0.0	100	100
6	313	MOVE	900	5300	2934.54	844.01	2919.00	900.00	0.0	0.0	1.7	6.7	0.0	100	100
6	316	MOVE	900	5300	2869.61	955.21	2836.00	1058.00	0.0	0.0	1.8	7.5	0.0	100	100
6	317	MOVE	900	5300	2916.14	776.32	2912.00	889.00	0.0	0.0	-0.3	8.2	0.0	100	100
6	318	MOVE	900	5300	2808.06	749.53	2813.00	840.00	0.0	0.0	0.7	7.5	0.0	100	100
6	319	MOVE	900	5300	2915.15	877.85	2895.00	969.00	0.0	0.0	1.9	7.3	0.0	100	100
6	320	MOVE	900	5300	2878.75	1055.77	2828.00	1150.00	0.0	0.0	0.3	5.8	0.0	100	100
6	321	MOVE	900	5300	3009.37	1150.37	2942.00	1270.00	0.0	0.0	0.9	5.3	0.0	100	100
6	326	MOVE	900	5300	3000.12	1211.43	2922.00	1334.00	0.0	0.0	0.7	6.8	0.0	100	100
6	323	MOVE	900	5300	2885.64	1103.70	2827.00	1212.00	0.0	0.0	1.4	6.8	0.0	100	100
6	324	MOVE	900	5300	2873.68	1119.00	2813.00	1215.00	0.0	0.0	1.0	7.4	0.0	100	100
6	325	MOVE	900	5300	2852.11	1095.83	2796.00	1193.00	0.0	0.0	0.8	6.4	0.0	100	100
6	326	MOVE	900	5300	2910.82	1159.86	2843.00	1267.00	0.0	0.0	1.5	4.7	0.0	100	100
6	327	MOVE	900	5300	3017.52	1314.61	2921.00	1433.00	0.0	0.0	2.3	4.8	0.0	100	100
6	328	MOVE	900	5300	2884.96	1393.49	2776.00	1497.00	0.0	0.0	1.8	3.0	0.0	100	100
6	329	MOVE	900	5300	2934.80	1623.56	2787.00	1731.00	0.0	0.0	0.5	1.5	0.0	100	100
6	330	MOVE	900	5300	3017.35	1849.35	2832.00	1965.00	0.0	0.0	-0.2	1.1	0.0	100	100
6	331	MOVE	900	5300	3100.37	2002.17	2886.00	2134.00	0.0	0.0	-0.2	0.7	0.0	100	100
6	334	MOVE	900	5300	3060.53	2057.37	2839.00	2192.00	0.0	0.0	0.2	1.0	0.0	100	100
6	335	MOVE	900	5300	3048.03	2243.68	2795.00	2365.00	0.0	0.0	0.3	0.6	0.0	100	100
6	336	MOVE	900	5300	3131.87	2337.57	2862.00	2447.00	0.0	0.0	0.3	0.4	0.0	100	100
6	337	MOVE	900	5300	3190.80	2289.73	2928.00	2433.00	0.0	0.0	1.4	2.4	0.0	100	100
6	338	MOVE	900	5300	3156.75	2555.55	2849.00	2687.00	0.0	0.0	0.9	2.4	0.0	100	100
6	340	MOVE	900	5300	3251.87	2568.70	2941.00	2716.00	0.0	0.0	0.1	1.8	0.0	100	100
6	341	MOVE	900	5300	3224.66	2502.50	2926.00	2647.00	0.0	0.0	1.8	8.9	0.0	100	100
6	342	MOVE	900	5300	3255.94	2932.02	2884.00	3068.00	0.0	0.0	2.0	7.1	0.0	100	100
6	343	MOVE	900	5300	3153.47	2804.48	2794.00	2980.00	0.0	0.0	2.7	9.7	0.0	100	100
6	344	MOVE	900	5300	3151.09	2955.93	2776.00	3073.00	0.0	0.0	2.9	9.0	0.0	100	100
6	345	MOVE	900	5300	3171.03	2957.97	2795.00	3079.00	0.0	0.0	2.4	9.7	0.0	100	100
			900	5300	3245.01	2972.33	2866.00	3105.00	0.0	0.0	2.4	11.4	0.0	100	100
			900	5300	3199.30	3021.43	2813.00	3144.00	0.0	0.0					

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
5	6	346	MOVE	900	5300	3248.11	3161.00	2838.00	3288.00	0.0	0.0	2.8	16.1	0.0	100	100
5	6	347	MOVE	900	5300	3305.77	3154.23	2895.00	3288.00	0.0	0.0	3.8	16.0	0.0	100	100
5	6	348	MOVE	900	5300	3142.96	2991.12	2761.00	3106.00	0.0	0.0	3.8	9.8	0.0	100	100
5	6	401	MOVE	900	5300	2869.58	959.30	2836.00	1062.00	0.0	0.0	1.0	6.9	0.0	100	100
5	6	402	MOVE	900	5300	2855.32	1001.75	2815.00	1101.00	0.0	0.0	0.9	7.2	0.0	100	100
5	6	403	MOVE	900	5300	2876.43	953.46	2843.00	1057.00	0.0	0.0	1.8	7.2	0.0	100	100
5	6	404	MOVE	900	5300	2903.87	915.83	2880.00	1023.00	0.0	0.0	-1.5	9.4	0.0	100	100
5	6	405	MOVE	900	5300	2919.89	883.07	2897.00	995.00	0.0	0.0	2.5	7.1	0.0	100	100
6	3	4	MOVE	3600	4600	64.59	1036.07	50.50	492.50	26.6	24.5	-1.1	-5.0	2.1	100	100
6	3	13	MOVE	3600	4600	411.03	661.19	396.50	186.50	29.1	27.9	0.8	0.2	1.2	100	100
6	3	14	MOVE	3600	4600	280.76	690.09	241.50	191.50	29.3	27.4	0.8	0.2	1.8	100	100
6	3	19	MOVE	3600	4600	500.54	1389.20	315.64	944.53	25.6	23.1	1.5	5.3	2.4	100	100
6	3	22	MOVE	3600	4600	600.76	1167.61	411.60	719.37	27.6	25.6	0.5	0.5	1.9	100	100
6	3	23	MOVE	3600	4600	583.93	1073.27	410.59	625.71	28.0	25.6	0.3	-0.9	2.4	100	100
6	3	24	MOVE	3600	4600	567.13	978.88	409.49	530.58	33.0	28.7	0.5	-0.7	4.3	100	100
6	3	25	MOVE	3600	4600	550.49	884.99	408.50	439.48	28.6	24.4	0.7	0.1	2.2	100	100
6	3	26	MOVE	3600	4600	533.68	790.59	407.40	347.69	28.8	26.0	0.9	0.4	2.7	100	100
6	3	27	MOVE	3600	4600	516.54	695.69	406.44	255.33	31.0	30.3	1.1	1.1	0.7	100	100
6	3	28	MOVE	3600	4600	498.82	598.21	405.31	159.99	33.3	30.3	1.3	1.3	3.0	100	100
6	3	303	MOVE	3600	4600	184.79	311.96	160.00	472.00	0.0	0.0	0.5	-0.5	0.0	100	100
6	3	305	MOVE	3600	4600	89.02	889.73	84.00	355.00	0.0	0.0	-0.1	-2.2	0.0	100	100
6	3	307	MOVE	3600	4600	122.51	1103.04	83.00	576.00	0.0	0.0	-1.0	-4.9	0.0	100	100
6	3	310	MOVE	3600	4600	510.68	969.26	371.00	511.00	0.0	0.0	-0.3	-0.9	0.0	100	100
6	3	316	MOVE	3600	4600	110.59	1385.14	43.00	847.00	0.0	0.0	-0.7	-3.0	0.0	100	100
6	3	318	MOVE	3600	4600	348.45	1379.59	210.00	877.00	0.0	0.0	0.8	1.6	0.0	100	100
6	3	320	MOVE	3600	4600	601.25	1183.48	410.00	735.00	0.0	0.0	0.7	0.4	0.0	100	100
6	3	321	MOVE	3600	4600	54.94	1255.28	19.00	708.00	0.0	0.0	-1.7	-6.3	0.0	100	100
6	3	323	MOVE	3600	4600	138.90	1571.57	42.00	1021.00	0.0	0.0	-0.2	3.4	0.0	100	100
6	3	326	MOVE	3600	4600	444.07	1480.20	266.00	980.00	0.0	0.0	1.1	6.8	0.0	100	100
6	3	329	MOVE	3600	4600	551.44	1499.86	339.00	1025.00	0.0	0.0	1.8	9.2	0.0	100	100
6	3	330	MOVE	3600	4600	294.69	1536.41	155.00	1014.00	0.0	0.0	0.8	6.2	0.0	100	100
6	3	331	MOVE	3600	4600	665.89	1419.31	429.00	909.00	0.0	0.0	1.8	8.4	0.0	100	100
6	3	334	MOVE	3600	4600	499.27	927.21	368.00	408.00	0.0	0.0	0.1	-0.7	0.0	100	100
6	4	4	MOVE	3600	4600	3109.82	553.89	2250.50	582.50	24.1	25.3	-1.7	-0.2	-1.3	100	100
6	4	5	MOVE	3600	4600	3094.16	458.15	2250.50	487.50	31.5	29.4	-1.7	0.1	2.0	100	100
6	4	6	MOVE	3600	4600	3078.52	361.67	2250.50	390.50	31.6	29.5	-1.5	0.5	2.2	100	100
6	4	7	MOVE	3600	4600	3063.51	267.47	2250.50	293.50	22.9	23.7	-0.6	3.2	-0.8	100	100
6	4	8	MOVE	3600	4600	3047.86	171.58	2250.50	196.50	28.7	28.0	-0.4	4.2	0.7	100	100
6	4	9	MOVE	3600	4600	3032.51	76.17	2250.50	100.50	28.7	24.9	-0.1	6.8	-1.2	100	100
6	4	10	MOVE	3600	4600	2900.81	106.49	2154.50	104.50	31.1	32.4	-0.0	6.3	-1.3	100	100
6	4	11	MOVE	3600	4600	2769.36	134.64	2058.50	108.50	25.1	25.0	0.3	5.6	-0.0	100	100
6	4	12	MOVE	3600	4600	2639.65	163.98	1963.50	113.50	23.1	23.2	0.2	5.4	-0.1	100	100
6	4	13	MOVE	3600	4600	2507.36	192.79	1867.50	117.50	28.0	28.2	0.3	5.3	-0.2	100	100
6	4	16	MOVE	3600	4600	2115.70	284.71	1580.50	130.50	24.3	24.3	0.5	2.8	-0.1	100	100
6	4	17	MOVE	3600	4600	1984.55	314.59	1484.50	134.50	32.6	33.1	0.5	1.5	-0.5	100	100
6	4	18	MOVE	3600	4600	1854.54	343.28	1389.50	139.50	44.3	34.5	0.1	0.3	9.8	100	100
6	4	19	MOVE	3600	4600	1723.23	371.33	1293.50	143.50	34.7	33.9	0.0	-0.5	0.9	100	100
6	4	20	MOVE	3600	4600	1591.78	404.93	1197.50	147.50	32.5	32.0	-0.0	-0.7	0.5	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTER FRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
0	4	21	MJVE	3600	4600	1461.84	434.43	1102.50	124.50	44.8	23.8	0.2	-0.1	1.0	100	100
0	4	22	MJVE	3600	4600	1329.91	463.21	1006.50	130.50	24.0	24.2	0.1	0.8	-0.2	100	100
0	4	23	MJVE	3600	4600	1198.02	490.19	910.50	100.50	28.8	29.8	-0.1	-0.5	-1.0	100	100
0	4	24	MJVE	3600	4600	1067.57	518.04	815.50	105.50	28.1	27.7	-0.3	-1.5	0.5	100	100
0	4	25	MJVE	3600	4600	935.53	545.70	719.50	109.50	31.4	30.2	-0.5	-4.0	1.2	100	100
0	4	28	MJVE	3600	4600	541.12	625.84	432.50	102.50	28.3	27.5	-1.0	-7.0	0.7	100	100
0	4	45	MJVE	3600	4600	1018.23	1278.96	692.65	908.04	28.0	25.9	-0.4	-1.1	2.1	100	100
0	4	46	MJVE	3600	4600	1416.18	1173.24	984.50	873.05	47.2	24.7	0.4	1.8	2.5	100	100
0	4	49	MJVE	3600	4600	1813.93	1069.65	1276.34	840.47	34.1	29.4	1.0	1.8	4.7	100	100
0	4	301	MJVE	3600	4600	777.75	617.04	600.00	410.00	0.0	0.0	-1.1	-6.8	0.0	100	100
0	4	302	MJVE	3600	4600	356.54	720.59	291.00	250.00	0.0	0.0	-1.3	-8.5	0.0	100	100
0	4	303	MJVE	3600	4600	428.73	785.15	335.00	323.00	0.0	0.0	-1.6	-8.3	0.0	100	100
0	4	304	MJVE	3600	4600	512.45	752.06	398.00	304.00	0.0	0.0	-1.8	-8.0	0.0	100	100
0	4	305	MJVE	3600	4600	650.28	763.54	493.00	341.00	0.0	0.0	-1.2	-8.3	0.0	100	100
0	4	306	MJVE	3600	4600	658.96	665.98	511.00	244.00	0.0	0.0	-1.6	-7.6	0.0	100	100
0	4	307	MJVE	3600	4600	762.00	720.96	576.00	324.00	0.0	0.0	-1.3	-7.4	0.0	100	100
0	4	308	MJVE	3600	4600	1238.79	499.30	938.00	177.00	0.0	0.0	0.0	-0.6	0.0	100	100
0	4	309	MJVE	3600	4600	1244.07	513.38	940.00	192.00	0.0	0.0	0.1	-0.7	0.0	100	100
0	4	311	MJVE	3600	4600	1395.21	414.16	1058.00	120.00	0.0	0.0	0.3	0.3	0.0	100	100
0	4	312	MJVE	3600	4600	1291.84	583.48	960.00	208.00	0.0	0.0	0.4	-1.2	0.0	100	100
0	4	313	MJVE	3600	4600	1058.69	672.54	791.00	321.00	0.0	0.0	-0.7	-4.4	0.0	100	100
0	4	314	MJVE	3600	4600	929.31	553.04	714.00	170.00	0.0	0.0	-0.6	-4.4	0.0	100	100
0	4	315	MJVE	3600	4600	881.99	603.65	670.00	222.00	0.0	0.0	-2.7	-6.9	0.0	100	100
0	4	316	MJVE	3600	4600	912.70	710.85	684.00	339.00	0.0	0.0	-1.4	-6.8	0.0	100	100
0	4	317	MJVE	3600	4600	1079.93	537.09	822.00	187.00	0.0	0.0	-0.5	-2.0	0.0	100	100
0	4	318	MJVE	3600	4600	1590.34	375.38	1200.00	117.00	0.0	0.0	0.0	0.3	0.0	100	100
0	4	319	MJVE	3600	4600	1523.59	462.23	1143.00	192.00	0.0	0.0	-0.3	-0.9	0.0	100	100
0	4	320	MJVE	3600	4600	1473.18	474.69	1106.00	195.00	0.0	0.0	-0.2	-0.6	0.0	100	100
0	4	321	MJVE	3600	4600	1689.18	578.71	1246.00	340.00	0.0	0.0	-0.3	-1.6	0.0	100	100
0	4	322	MJVE	3600	4600	1730.28	549.30	1278.00	316.00	0.0	0.0	0.3	-1.2	0.0	100	100
0	4	323	MJVE	3600	4600	1936.18	487.47	1430.00	297.00	0.0	0.0	0.5	-2.2	0.0	100	100
0	4	324	MJVE	3600	4600	1703.55	314.61	1287.00	75.00	0.0	0.0	0.4	1.1	0.0	100	100
0	4	325	MJVE	3600	4600	1816.85	398.02	1357.00	182.00	0.0	0.0	0.1	-0.4	0.0	100	100
0	4	326	MJVE	3600	4600	1886.65	359.83	1411.00	156.00	0.0	0.0	0.0	0.4	0.0	100	100
0	4	327	MJVE	3600	4600	1606.56	469.78	1200.00	219.00	0.0	0.0	0.4	-1.3	0.0	100	100
0	4	328	MJVE	3600	4600	2108.65	350.30	1568.00	194.00	0.0	0.0	0.3	1.4	0.0	100	100
0	4	329	MJVE	3600	4600	2126.23	411.60	1573.00	258.00	0.0	0.0	0.5	0.1	0.0	100	100
0	4	330	MJVE	3600	4600	2250.28	306.51	1673.00	179.00	0.0	0.0	0.2	2.3	0.0	100	100
0	4	331	MJVE	3600	4600	2224.09	448.19	1638.00	314.00	0.0	0.0	0.0	-0.9	0.0	100	100
0	4	332	MJVE	3600	4600	2359.71	331.32	1747.00	225.00	0.0	0.0	0.5	2.1	0.0	100	100
0	4	333	MJVE	3600	4600	2488.97	231.12	1850.00	152.00	0.0	0.0	0.3	4.1	0.0	100	100
0	4	334	MJVE	3600	4600	2415.72	181.24	1804.00	87.00	0.0	0.0	0.8	6.2	0.0	100	100
0	4	335	MJVE	3600	4600	2599.31	131.58	1939.00	74.00	0.0	0.0	0.7	6.1	0.0	100	100
0	4	336	MJVE	3600	4600	2791.69	169.33	2071.00	138.00	0.0	0.0	0.6	5.0	0.0	100	100
0	4	337	MJVE	3600	4600	2834.45	214.21	2095.00	159.00	0.0	0.0	0.3	4.2	0.0	100	100
0	4	338	MJVE	3600	4600	2886.96	229.47	2130.00	224.00	0.0	0.0	0.4	3.5	0.0	100	100
0	4	339	MJVE	3600	4600	2893.49	326.39	2124.00	321.00	0.0	0.0	-0.6	1.9	0.0	100	100
0	4	340	MJVE	3600	4600	2925.54	138.79	2168.00	141.00	0.0	0.0	0.1	5.6	0.0	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTER FRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
6	4	341	MOVE	3600	4600	2942.45	200.18	2173.00	402.00	0.0	0.0	-0.3	4.3	0.0	100	100
6	4	342	MOVE	3600	4600	3043.60	192.80	2245.00	217.00	0.0	0.0	-0.5	3.6	0.0	100	100
6	4	343	MOVE	3600	4600	2625.97	357.41	1932.00	303.00	0.0	0.0	-0.3	1.3	0.0	100	100
6	4	344	MOVE	3600	4600	2550.46	319.95	1883.00	652.00	0.0	0.0	0.0	2.0	0.0	100	100
6	4	345	MOVE	3600	4600	3047.71	28.69	2207.00	94.00	0.0	0.0	-0.1	8.0	0.0	100	100
6	4	346	MOVE	3600	4600	3058.78	97.78	2267.00	125.00	0.0	0.0	-0.6	6.2	0.0	100	100
6	4	347	MOVE	3600	4600	3112.97	220.61	2291.00	257.00	0.0	0.0	-1.1	3.3	0.0	100	100
6	4	348	MOVE	3600	4600	2889.97	443.98	2108.00	436.00	0.0	0.0	-0.9	0.5	0.0	100	100
6	4	349	MOVE	3600	4600	2857.28	523.08	2076.00	508.00	0.0	0.0	-1.2	-0.0	0.0	100	100
6	4	350	MOVE	3600	4600	2810.77	488.25	2047.00	403.00	0.0	0.0	-0.6	0.0	0.0	100	100
6	4	351	MOVE	3600	4600	2974.54	519.53	2159.00	525.00	0.0	0.0	-1.2	0.3	0.0	100	100
6	4	352	MOVE	3600	4600	3123.36	471.00	2270.00	502.00	0.0	0.0	-2.2	0.5	0.0	100	100
6	4	353	MOVE	3600	4600	3106.93	399.10	2266.00	434.00	0.0	0.0	-1.2	0.5	0.0	100	100
6	4	354	MOVE	3600	4600	2980.67	417.24	2175.00	427.00	0.0	0.0	-1.1	0.1	0.0	100	100
6	4	355	MOVE	3600	4600	3122.05	732.88	2238.00	755.00	0.0	0.0	-0.7	3.4	0.0	100	100
6	4	356	MOVE	3600	4600	3179.65	780.37	2273.00	813.00	0.0	0.0	-1.4	5.6	0.0	100	100
6	4	357	MOVE	3600	4600	2880.96	835.63	2056.00	809.00	0.0	0.0	0.3	4.7	0.0	100	100
6	4	358	MOVE	3600	4600	3113.39	610.66	2246.00	644.00	0.0	0.0	-1.9	0.8	0.0	100	100
6	4	359	MOVE	3600	4600	2818.77	666.57	2033.00	633.00	0.0	0.0	-0.9	0.6	0.0	100	100
6	4	360	MOVE	3600	4600	2776.74	911.59	1974.00	862.00	0.0	0.0	0.4	6.2	0.0	100	100
6	4	361	MOVE	3600	4600	2393.89	981.88	1695.00	863.00	0.0	0.0	2.0	5.6	0.0	100	100
6	4	362	MOVE	3600	4600	2556.62	990.89	1809.00	899.00	0.0	0.0	1.8	7.3	0.0	100	100
6	4	363	MOVE	3600	4600	2397.09	901.62	1707.00	788.00	0.0	0.0	1.1	3.4	0.0	100	100
6	4	364	MOVE	3600	4600	2314.80	1066.50	1630.00	925.00	0.0	0.0	2.2	7.6	0.0	100	100
6	4	365	MOVE	3600	4600	2159.14	1073.70	1519.00	909.00	0.0	0.0	1.8	6.1	0.0	100	100
6	4	366	MOVE	3600	4600	2152.48	948.64	1529.00	790.00	0.0	0.0	0.8	1.6	0.0	100	100
6	4	367	MOVE	3600	4600	1966.02	1065.52	1384.00	808.00	0.0	0.0	1.3	3.8	0.0	100	100
6	4	368	MOVE	3600	4600	1898.45	1139.12	1328.00	826.00	0.0	0.0	1.4	5.6	0.0	100	100
6	4	369	MOVE	3600	4600	1863.57	1080.93	1310.00	806.00	0.0	0.0	1.1	2.3	0.0	100	100
6	4	370	MOVE	3600	4600	1758.18	1033.17	1241.00	807.00	0.0	0.0	-0.3	0.4	0.0	100	100
6	4	371	MOVE	3600	4600	1997.48	1013.34	1413.00	826.00	0.0	0.0	-0.7	-1.3	0.0	100	100
6	4	373	MOVE	3600	4600	1495.29	1137.53	1042.00	870.00	0.0	0.0	-0.4	1.5	0.0	100	100
6	4	374	MOVE	3600	4600	1411.52	1233.57	974.00	934.00	0.0	0.0	-0.7	3.1	0.0	100	100
6	4	375	MOVE	3600	4600	1315.45	1292.62	900.00	971.00	0.0	0.0	-0.6	3.7	0.0	100	100
6	4	376	MOVE	3600	4600	1324.73	1174.99	920.00	867.00	0.0	0.0	-0.7	0.3	0.0	100	100
6	4	378	MOVE	3600	4600	1634.15	1044.41	1153.00	796.00	0.0	0.0	-0.7	-1.0	0.0	100	100
6	4	379	MOVE	3600	4600	1088.86	1318.17	738.00	957.00	0.0	0.0	-0.3	1.4	0.0	100	100
6	4	381	MOVE	3600	4600	1061.82	1160.54	757.00	867.00	0.0	0.0	-0.8	-2.1	0.0	100	100
6	4	382	MOVE	3600	4600	863.87	1254.66	587.00	838.00	0.0	0.0	-0.9	-3.7	0.0	100	100
6	4	383	MOVE	3600	4600	782.88	1317.57	523.00	903.00	0.0	0.0	-0.9	-2.6	0.0	100	100
6	4	384	MOVE	3600	4600	854.59	1362.40	568.00	958.00	0.0	0.0	-0.9	-0.5	0.0	100	100
6	4	385	MOVE	3600	4600	959.77	1349.32	644.00	964.00	0.0	0.0	-0.2	0.7	0.0	100	100
6	4	386	MOVE	3600	4600	1032.79	1347.89	695.00	975.00	0.0	0.0	-0.8	1.9	0.0	100	100
6	4	387	MOVE	3600	4600	933.28	1280.10	632.00	900.00	0.0	0.0	-0.0	-2.1	0.0	100	100
6	4	390	MOVE	3600	4600	554.43	1453.98	347.00	992.00	0.0	0.0	-0.4	-1.7	0.0	100	100
6	4	392	MOVE	3600	4600	603.47	1279.18	402.00	851.00	0.0	0.0	-0.9	-5.6	0.0	100	100
6	4	397	MOVE	3600	4600	708.68	1029.54	504.00	814.00	0.0	0.0	-1.7	-8.0	0.0	100	100
6	4	398	MOVE	3600	4600	802.07	1014.14	571.00	815.00	0.0	0.0	-1.1	-6.4	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTER FRAME ERR LINE	ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
6	4	399	MJVE	3600	4600	563.21	1160.49	387.00	714.00	0.0	0.0	-2.2	-7.9	0.0	100	100
6	4	400	MJVE	3600	4600	416.95	1187.01	281.00	713.00	0.0	0.0	-2.2	-8.6	0.0	100	100
6	4	401	MJVE	3600	4600	328.50	1131.51	225.00	644.00	0.0	0.0	-2.1	-10.3	0.0	100	100
6	4	402	MJVE	3600	4600	380.08	1037.98	272.00	562.00	0.0	0.0	-2.0	-9.7	0.0	100	100
6	4	404	MJVE	3600	4600	511.00	1104.78	356.00	651.00	0.0	0.0	-1.5	-9.1	0.0	100	100
6	4	405	MJVE	3600	4600	647.81	1106.16	452.00	677.00	0.0	0.0	-1.3	-8.1	0.0	100	100
6	4	406	MJVE	3600	4600	646.53	738.62	283.00	280.00	0.0	0.0	-1.9	-8.1	0.0	100	100
6	4	407	MJVE	3600	4600	286.85	771.99	237.00	283.00	0.0	0.0	-1.7	-8.7	0.0	100	100
6	4	408	MJVE	3600	4600	324.16	806.81	259.00	329.00	0.0	0.0	-1.6	-8.9	0.0	100	100
6	4	409	MJVE	3600	4600	348.16	615.87	298.00	137.00	0.0	0.0	-0.8	-5.4	0.0	100	100
6	5	1	MJVE	3600	4600	18.70	747.77	50.50	260.50	18.5	23.7	-0.9	0.8	-5.2	100	100
6	5	5	MJVE	3600	4600	80.83	1134.93	50.50	593.50	21.0	26.8	-0.7	-6.1	-5.8	100	100
6	5	7	MJVE	3600	4600	113.74	1329.03	50.50	790.50	18.6	24.7	-0.3	-6.7	-6.1	100	100
6	5	8	MJVE	3600	4600	128.88	1426.30	50.50	888.50	22.1	27.2	-0.5	-7.4	-5.0	100	100
6	5	9	MJVE	3600	4600	144.22	1524.89	50.50	987.50	18.5	25.0	-1.2	-7.6	-6.4	100	100
6	5	10	MJVE	3600	4600	160.10	1622.79	50.50	1085.50	21.3	27.8	-1.2	-7.6	-6.5	100	100
6	5	12	MJVE	3600	4600	192.25	1820.18	50.50	1282.50	17.2	23.5	-0.9	-6.9	-6.3	100	100
6	5	13	MJVE	3600	4600	207.90	1918.65	50.50	1380.50	17.9	24.1	-1.2	-6.2	-6.2	100	100
6	5	14	MJVE	3600	4600	224.41	2018.27	50.50	1479.50	22.9	28.8	-0.7	-5.4	-5.9	100	100
6	5	15	MJVE	3600	4600	240.36	2116.66	50.50	1577.50	28.2	30.2	-0.6	-4.9	-2.0	100	100
6	5	18	MJVE	3600	4600	287.15	2410.20	50.50	1872.50	31.4	31.5	-1.6	-5.8	-0.1	100	100
6	5	22	MJVE	3600	4600	356.79	2802.54	50.50	2266.50	30.9	30.6	-4.0	-6.9	0.4	100	100
6	5	31	MJVE	3600	4600	494.94	3683.80	50.50	3151.50	18.5	24.3	-2.6	-10.2	-5.8	100	100
6	5	32	MJVE	3600	4600	510.37	3779.70	50.50	3250.50	22.9	30.0	-3.3	-13.2	-7.2	100	100
6	5	59	MJVE	3600	4600	500.94	3785.89	43.40	3255.22	16.7	22.3	-3.4	-13.6	-5.7	100	100
6	5	60	MJVE	3600	4600	595.66	3764.03	112.06	3250.57	18.6	25.7	-3.0	-13.0	-7.0	100	100
6	5	61	MJVE	3600	4600	578.84	3665.25	111.63	3148.51	22.4	28.0	-2.5	-9.9	-5.6	100	100
6	5	62	MJVE	3600	4600	561.95	3567.38	110.87	3048.18	23.4	27.2	-1.9	-7.7	-3.7	100	100
6	5	63	MJVE	3600	4600	547.69	3468.64	114.02	2947.13	42.9	27.1	-4.0	-4.7	15.8	100	100
6	5	64	MJVE	3600	4600	528.57	3371.96	109.86	2848.30	21.0	27.6	-1.2	-3.6	-6.6	100	100
6	5	65	MJVE	3600	4600	512.23	3276.19	109.39	2751.28	25.0	31.3	-1.1	-2.6	-5.2	100	100
6	5	66	MJVE	3600	4600	495.43	3179.56	108.50	2653.41	24.4	31.3	-0.6	-1.6	-1.9	100	100
6	5	68	MJVE	3600	4600	462.54	2987.06	107.52	2459.42	20.2	26.3	-0.5	-0.5	-6.1	100	100
6	5	70	MJVE	3600	4600	425.22	2800.07	99.04	2273.53	17.5	25.1	4.3	-3.9	-7.6	100	100
6	5	302	MJVE	3600	4600	87.60	896.27	83.00	351.00	0.0	0.0	0.5	-1.9	0.0	100	100
6	5	303	MJVE	3600	4600	79.01	859.76	80.00	323.00	0.0	0.0	0.6	-1.3	0.0	100	100
6	5	304	MJVE	3600	4600	174.59	1033.29	128.00	510.00	0.0	0.0	-0.4	-4.3	0.0	100	100
6	5	305	MJVE	3600	4600	37.83	1026.69	33.00	481.00	0.0	0.0	-1.3	-4.6	0.0	100	100
6	5	306	MJVE	3600	4600	200.09	1140.55	133.00	623.00	0.0	0.0	-0.1	-5.3	0.0	100	100
6	5	307	MJVE	3600	4600	201.03	1258.54	121.00	759.00	0.0	0.0	-1.4	-6.5	0.0	100	100
6	5	308	MJVE	3600	4600	125.30	1338.60	58.00	803.00	0.0	0.0	-0.5	-7.7	0.0	100	100
6	5	310	MJVE	3600	4600	81.18	1383.95	22.00	841.00	0.0	0.0	-1.2	-7.7	0.0	100	100
6	5	311	MJVE	3600	4600	146.40	1120.39	98.00	559.00	0.0	0.0	-0.6	-5.3	0.0	100	100
6	5	313	MJVE	3600	4600	234.54	1544.01	112.00	1062.00	0.0	0.0	-1.3	-6.3	0.0	100	100
6	5	315	MJVE	3600	4600	169.61	1652.21	54.00	1118.00	0.0	0.0	-1.7	-6.7	0.0	100	100
6	5	316	MJVE	3600	4600	216.14	1476.32	107.00	954.00	0.0	0.0	-1.8	-7.5	0.0	100	100
6	5	317	MJVE	3600	4600	108.00	1445.53	33.00	904.00	0.0	0.0	0.3	-8.2	0.0	100	100
6	5	318	MJVE	3600	4600	215.15	1577.85	94.00	1052.00	0.0	0.0	-0.7	-7.5	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
6	5	319	MOVE	3600	4600	178.75	1755.77	49.00	1218.00	0.0	0.0	-1.9	-7.3	0.0	100	100
6	5	320	MOVE	3600	4600	309.37	1850.37	129.00	1333.00	0.0	0.0	-0.3	-5.8	0.0	100	100
6	5	321	MOVE	3600	4600	300.12	1911.43	116.00	1396.00	0.0	0.0	-0.9	-5.3	0.0	100	100
6	5	322	MOVE	3600	4600	185.64	1803.70	47.00	1279.00	0.0	0.0	-0.7	-6.8	0.0	100	100
6	5	323	MOVE	3600	4600	173.68	1818.00	38.00	1277.00	0.0	0.0	-1.4	-6.8	0.0	100	100
6	5	324	MOVE	3600	4600	152.11	1795.83	25.00	1252.00	0.0	0.0	-1.0	-7.4	0.0	100	100
6	5	325	MOVE	3600	4600	210.82	1859.86	59.00	1324.00	0.0	0.0	-0.8	-6.4	0.0	100	100
6	5	326	MOVE	3600	4600	317.52	2014.61	117.00	1493.00	0.0	0.0	-1.5	-4.7	0.0	100	100
6	5	327	MOVE	3600	4600	184.96	2096.49	15.00	1548.00	0.0	0.0	-2.3	-4.8	0.0	100	100
6	5	328	MOVE	3600	4600	234.80	2323.56	24.00	1776.00	0.0	0.0	-1.8	-3.0	0.0	100	100
6	5	329	MOVE	3600	4600	317.35	2545.35	56.00	2005.00	0.0	0.0	-0.5	-1.5	0.0	100	100
6	5	330	MOVE	3600	4600	400.37	2702.17	96.00	2172.00	0.0	0.0	0.2	-1.1	0.0	100	100
6	5	331	MOVE	3600	4600	360.53	2757.37	62.00	2218.00	0.0	0.0	-0.2	-0.7	0.0	100	100
6	5	332	MOVE	3600	4600	348.03	2943.68	32.00	2397.00	0.0	0.0	-0.6	-1.6	0.0	100	100
6	5	333	MOVE	3600	4600	431.87	3037.57	80.00	2503.00	0.0	0.0	-0.3	-0.6	0.0	100	100
6	5	334	MOVE	3600	4600	490.80	2989.73	127.00	2467.00	0.0	0.0	-0.3	-0.4	0.0	100	100
6	5	335	MOVE	3600	4600	456.75	3255.55	73.00	2721.00	0.0	0.0	-1.4	-2.4	0.0	100	100
6	5	337	MOVE	3600	4600	551.87	3268.70	138.00	2731.00	0.0	0.0	-0.9	-2.4	0.0	100	100
6	5	338	MOVE	3600	4600	524.00	3202.50	126.00	2681.00	0.0	0.0	-0.1	-1.8	0.0	100	100
6	5	340	MOVE	3600	4600	555.94	3632.02	99.00	3111.00	0.0	0.0	-1.8	-8.9	0.0	100	100
6	5	341	MOVE	3600	4600	453.47	3564.48	35.00	3025.00	0.0	0.0	-2.0	-7.1	0.0	100	100
6	5	342	MOVE	3600	4600	451.09	3659.93	23.00	3110.00	0.0	0.0	-2.7	-9.7	0.0	100	100
6	5	343	MOVE	3600	4600	471.03	3657.97	37.00	3121.00	0.0	0.0	-2.9	-9.0	0.0	100	100
6	5	344	MOVE	3600	4600	545.01	3672.33	87.00	3149.00	0.0	0.0	-2.4	-9.7	0.0	100	100
6	5	345	MOVE	3600	4600	499.30	3721.43	49.00	3190.00	0.0	0.0	-2.4	-11.4	0.0	100	100
6	5	346	MOVE	3600	4600	548.11	3801.00	67.00	3259.00	0.0	0.0	-2.8	-16.1	0.0	100	100
6	5	347	MOVE	3600	4600	605.77	3854.23	109.00	3303.00	0.0	0.0	-3.8	-16.0	0.0	100	100
6	5	348	MOVE	3600	4600	442.96	3691.12	14.00	3149.00	0.0	0.0	-3.8	-9.8	0.0	100	100
6	5	401	MOVE	3600	4600	169.58	1659.30	53.00	1122.00	0.0	0.0	-1.0	-6.9	0.0	100	100
6	5	402	MOVE	3600	4600	155.32	1701.73	38.00	1161.00	0.0	0.0	-0.9	-7.2	0.0	100	100
6	5	403	MOVE	3600	4600	176.43	1653.46	59.00	1118.00	0.0	0.0	-1.8	-7.2	0.0	100	100
6	5	404	MOVE	3600	4600	203.87	1615.83	80.00	1088.00	0.0	0.0	-1.5	-9.4	0.0	100	100
6	5	405	MOVE	3600	4600	219.89	1583.07	98.00	1098.00	0.0	0.0	-2.5	-7.1	0.0	100	100
6	6	4	FIX	3600	4600	1084.19	2584.86	589.86	2477.10	34.4*******		0.0		0.0*********	100	100
6	6	5	FIX	3600	4600	2894.86	2091.45	1929.63	1940.24	34.6*******		0.0		0.0*********	100	100
6	6	6	FIX	3600	4600	2244.25	2475.81	1417.50	2281.20	30.5*******		0.0		0.0*********	100	100
6	6	7	FIX	3600	4600	439.97	2700.49	123.69	2102.40	34.8*******		0.0		0.0*********	100	100
6	6	8	FIX	3600	4600	2120.22	1205.25	1481.10	1057.89	33.5*******		0.0		0.0*********	100	100
6	6	9	FIX	3600	4600	2622.55	671.89	1893.05	608.98	27.4*******		0.0		0.0*********	100	100
6	6	11	FIX	3600	4600	841.20	814.75	621.29	419.13	26.9*******		0.0		0.0*********	100	100
6	6	12	FIX	3600	4600	1239.27	1194.14	857.48	805.88	30.4*******		0.0		0.0*********	100	100
6	6	14	FIX	3600	4600	2122.16	690.82	1537.93	553.45	22.8*******		0.0		0.0*********	100	100
6	6	15	FIX	3600	4600	24.63	782.95	51.15	256.78	36.3*******		0.0		0.0*********	100	100
6	6	17	FIX	3600	4600	1130.46	2911.32	585.07	2903.90	28.7*******		0.0		0.0*********	100	100
6	6	18	FIX	3600	4600	2923.78	2713.80	1867.08	2640.39	39.5*******		0.0		0.0*********	100	100
6	6	19	FIX	3600	4600	2589.27	1347.18	1790.93	1297.84	32.1*******		0.0		0.0*********	100	100
6	6	20	FIX	3600	4600	1621.71	374.84	1222.11	121.87	32.4*******		0.0		0.0*********	100	100
6	6	21	FIX	3600	4600	1289.79	479.89	976.15	165.15	36.7*******		0.0		0.0*********	100	100

PENNSYLVANIA MOSAIC UTM ZONE 17 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEN	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTER LINE	FRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
0	0	23	FIX	3600 4600	517.64	932.94	380.42	477.29	30.4*******	0.0	0.0*********		100	100
0	0	24	FIX	3600 4600	670.06	1956.73	370.22	1501.71	25.1*******	0.0	0.0*********		100	100
0	0	25	FIX	3600 4600	1116.86	2129.97	664.98	1745.69	32.9*******	0.0	0.0*********		100	100

TABLE 7

MOS34 Output Listing UTM Zone 18

PAGE 1.001

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
	1	FIX	1000	6100	2103.92	2308.45	1848.51	[illegible]	25.5*******		0.0	0.0**********		100	100
	2	FIX	1000	6100	1979.16	3056.67	1550.70	[illegible]	28.2*******		0.0	0.0**********		100	100
	3	FIX	1000	6100	1017.68	3030.95	623.23	2734.00	26.0*******		0.0	0.0**********		100	100
	4	FIX	1000	6100	761.83	3480.25	267.63	3109.59	26.1*******		0.0	0.0**********		100	100
	5	FIX	1000	6100	2666.63	456.24	2832.63	822.98	30.1*******		0.0	0.0**********		100	100
	6	FIX	1000	6100	2575.13	1693.75	2452.54	1801.00	28.6*******		0.0	0.0**********		100	100
	8	FIX	1000	6100	1391.63	1689.46	1303.55	1911.37	30.8*******		0.0	0.0**********		100	100
	9	FIX	1000	6100	624.97	2270.61	418.94	[illegible]	26.1*******		0.0	0.0**********		100	100
	15	FIX	1000	6100	2536.61	2600.40	2200.70	2674.04	24.7*******		0.0	0.0**********		100	100
	16	FIX	1000	6100	3082.14	2581.91	2735.32	2700.05	30.1*******		0.0	0.0**********		100	100
	17	FIX	1000	6100	2738.22	1979.82	2543.55	2118.05	24.1*******		0.0	0.0**********		100	100
	18	FIX	1000	6100	1480.19	432.51	1686.77	519.34	34.2*******		0.0	0.0**********		100	100
	21	FIX	1000	6100	797.63	2286.35	585.44	1957.40	27.1*******		0.0	0.0**********		100	100
	22	FIX	1000	6100	1184.88	2160.35	989.05	1932.00	24.6*******		0.0	0.0**********		100	100
	23	FIX	1000	6100	2126.58	1359.90	2095.18	1371.74	22.8*******		0.0	0.0**********		100	100
	24	FIX	1000	6100	1809.63	777.94	1925.40	731.50	23.8*******		0.0	0.0**********		100	100
	25	FIX	1000	6100	1304.77	1066.91	1366.58	892.88	23.2*******		0.0	0.0**********		100	100
	26	FIX	1000	6100	963.87	1670.76	891.76	1399.20	0.0	0.0	0.0	0.0	0.0	100	100
	5	MOVE	1000	6100	2650.21	370.20	2837.34	929.95	20.8	21.0	1.1	5.9	5.8	100	100
	7	MOVE	1000	6100	2696.54	563.51	2827.87	747.10	24.7	18.6	0.1	6.6	6.1	100	100
	8	MOVE	1000	6100	2718.31	659.48	2855.80	845.27	27.2	22.1	0.9	7.2	5.0	100	100
	9	MOVE	1000	6100	2740.38	756.75	2883.68	924.95	25.0	18.5	1.6	7.5	6.4	100	100
	10	MOVE	1000	6100	2762.93	853.29	2832.82	1023.70	27.8	21.3	1.6	7.4	6.5	100	100
	12	MOVE	1000	6100	2808.55	1047.94	2831.36	1224.31	23.5	17.2	1.4	6.8	6.3	100	100
	13	MOVE	1000	6100	2830.91	1145.07	2829.86	1324.53	24.1	17.9	1.6	6.1	6.2	100	100
	14	MOVE	1000	6100	2854.21	1243.29	2829.65	1420.30	28.8	22.9	1.1	5.4	5.9	100	100
	15	MOVE	1000	6100	2876.87	1340.31	2828.78	1520.47	30.2	28.2	0.9	4.9	2.0	100	100
	18	MOVE	1000	6100	2943.68	1629.84	2824.60	1822.37	31.5	31.4	2.0	5.8	0.1	100	100
	31	MOVE	1000	6100	3238.60	2885.88	2814.69	3107.38	24.3	18.5	2.8	10.5	5.8	100	100
	32	MOVE	1000	6100	3259.97	2980.47	2813.53	3201.32	30.0	22.9	3.7	13.6	7.2	100	100
	61	MOVE	1000	6100	3320.41	2861.63	2900.50	3103.50	28.0	22.4	2.8	10.4	5.6	100	100
	62	MOVE	1000	6100	3296.65	2765.18	2900.50	3000.50	27.2	23.4	2.1	8.1	3.7	100	100
	63	MOVE	1000	6100	3275.86	2667.68	2900.50	2909.50	27.1	42.9	4.1	4.9	-15.8	100	100
	64	MOVE	1000	6100	3250.16	2572.55	2900.50	2814.50	27.6	21.0	1.3	4.0	6.6	100	100
	65	MOVE	1000	6100	3227.31	2478.16	2900.50	2720.50	31.3	26.0	1.1	2.9	5.2	100	100
	66	MOVE	1000	6100	3203.98	2382.92	2900.50	2619.50	31.3	29.4	0.6	2.0	1.9	100	100
	68	MOVE	1000	6100	3158.05	2193.16	2900.50	2420.50	28.3	20.2	0.5	0.8	6.1	100	100
	70	MOVE	1000	6100	3108.07	2009.20	2900.50	2220.50	25.1	17.5	-4.0	4.4	7.6	100	100
	301	MOVE	1000	6100	2653.31	103.79	2903.00	270.00	0.0	0.0	0.3	1.3	0.0	100	100
	302	MOVE	1000	6100	2639.95	123.78	2886.00	242.00	0.0	0.0	-0.3	1.7	0.0	100	100
	303	MOVE	1000	6100	2629.55	97.94	2882.00	269.00	0.0	0.0	-0.4	1.2	0.0	100	100
	304	MOVE	1000	6100	2736.65	261.41	2947.00	440.00	0.0	0.0	0.8	4.2	0.0	100	100
	305	MOVE	1000	6100	2599.99	267.21	2812.00	419.00	0.0	0.0	1.7	4.3	0.0	100	100
	308	MOVE	1000	6100	2708.72	572.26	2847.00	736.00	0.0	0.0	1.0	7.6	0.0	100	100
	309	MOVE	1000	6100	2700.37	608.68	2855.00	765.00	0.0	0.0	-2.0	14.9	0.0	100	100
	312	MOVE	1000	6100	2634.31	391.31	2817.00	540.00	0.0	0.0	1.1	6.2	0.0	100	100
	313	MOVE	1000	6100	2631.76	769.62	2919.00	900.00	0.0	0.0	1.7	6.2	0.0	100	100
	314	MOVE	1000	6100	2735.90	791.05	2821.00	956.00	0.0	0.0	2.1	8.2	0.0	100	100

This tiepoint file is used as input to geometrically correct each Landsat scene used in the UTM Zone 18 mosaic.

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
5	6	315	MOVE	1000	6100	2774.64	884.96	2836.00	1058.00	0.0	0.0	2.2	6.5	0.0	100	100
5	6	316	MOVE	1000	6100	2808.76	703.37	2912.00	869.00	0.0	0.0	2.3	7.3	0.0	100	100
5	6	317	MOVE	1000	6100	2698.87	680.09	2813.00	840.00	0.0	0.0	0.2	8.1	0.0	100	100
5	6	318	MOVE	1000	6100	2814.74	804.70	2895.00	989.00	0.0	0.0	1.2	7.4	0.0	100	100
5	6	319	MOVE	1000	6100	2790.66	984.62	2828.00	1158.00	0.0	0.0	2.4	7.1	0.0	100	100
5	6	320	MOVE	1000	6100	2927.40	1070.02	2942.00	1275.00	0.0	0.0	0.8	5.8	0.0	100	100
5	6	321	MOVE	1000	6100	2922.38	1131.54	2922.00	1334.00	0.0	0.0	1.3	5.3	0.0	100	100
5	6	322	MOVE	1000	6100	2801.16	1036.94	2827.00	1212.00	0.0	0.0	1.1	6.7	0.0	100	100
5	6	323	MOVE	1000	6100	2789.88	1047.04	2813.00	1219.00	0.0	0.0	1.8	6.7	0.0	100	100
5	6	324	MOVE	1000	6100	2766.85	1026.41	2796.00	1193.00	0.0	0.0	1.4	7.2	0.0	100	100
5	6	325	MOVE	1000	6100	2829.79	1086.23	2843.00	1267.00	0.0	0.0	1.2	6.4	0.0	100	100
5	6	326	MOVE	1000	6100	2946.80	1233.24	2921.00	1439.00	0.0	0.0	1.9	4.7	0.0	100	100
5	6	327	MOVE	1000	6100	2820.24	1324.00	2776.00	1497.00	0.0	0.0	2.5	4.6	0.0	100	100
5	6	328	MOVE	1000	6100	2885.53	1547.33	2787.00	1731.00	0.0	0.0	2.0	2.9	0.0	100	100
5	6	329	MOVE	1000	6100	2983.07	1762.55	2832.00	1965.00	0.0	0.0	0.6	1.6	0.0	100	100
5	6	330	MOVE	1000	6100	3076.61	1913.26	2888.00	2134.00	0.0	0.0	-0.1	1.3	0.0	100	100
5	6	331	MOVE	1000	6100	3040.66	1971.05	2839.00	2182.00	0.0	0.0	0.2	0.8	0.0	100	100
5	6	332	MOVE	1000	6100	3040.91	2157.74	2795.00	2383.00	0.0	0.0	0.5	1.2	0.0	100	100
5	6	333	MOVE	1000	6100	3130.91	2245.65	2862.00	2470.00	0.0	0.0	0.2	0.9	0.0	100	100
5	6	334	MOVE	1000	6100	3186.40	2193.88	2928.00	2433.00	0.0	0.0	0.3	0.7	0.0	100	100
5	6	335	MOVE	1000	6100	3170.59	2462.37	2849.00	2687.00	0.0	0.0	1.4	2.6	0.0	100	100
5	6	337	MOVE	1000	6100	3266.34	2467.97	2941.00	2716.00	0.0	0.0	0.9	2.8	0.0	100	100
5	6	338	MOVE	1000	6100	3234.68	2403.80	2926.00	2647.00	0.0	0.0	0.1	2.2	0.0	100	100
5	6	339	MOVE	1000	6100	3187.45	2343.02	2889.00	2572.00	0.0	0.0	0.5	5.5	0.0	100	100
5	6	340	MOVE	1000	6100	3295.29	2830.06	2884.00	3068.00	0.0	0.0	2.1	9.4	0.0	100	100
5	6	341	MOVE	1000	6100	3188.47	2769.72	2794.00	2988.00	0.0	0.0	2.1	7.4	0.0	100	100
5	6	342	MOVE	1000	6100	3192.36	2861.09	2776.00	3073.00	0.0	0.0	2.9	10.0	0.0	100	100
5	6	343	MOVE	1000	6100	3212.39	2861.76	2795.00	3079.00	0.0	0.0	3.0	9.3	0.0	100	100
5	6	344	MOVE	1000	6100	3287.15	2871.31	2866.00	3105.00	0.0	0.0	2.7	10.1	0.0	100	100
5	6	345	MOVE	1000	6100	3244.94	2923.12	2813.00	3144.00	0.0	0.0	2.7	11.8	0.0	100	100
5	6	346	MOVE	1000	6100	3303.18	3058.96	2838.00	3285.00	0.0	0.0	3.3	16.6	0.0	100	100
5	6	347	MOVE	1000	6100	3360.21	3048.27	2895.00	3288.00	0.0	0.0	4.3	16.4	0.0	100	100
5	6	348	MOVE	1000	6100	3186.68	2896.75	2761.00	3106.00	0.0	0.0	4.0	10.0	0.0	100	100
5	7	25	MOVE	1000	6100	500.40	3136.70	100.50	2719.50	94.4	22.3	-6.9	-4.1	72.1	100	100
5	7	27	MOVE	1000	6100	554.48	3328.76	100.50	2913.50	18.4	23.5	1.3	-0.5	-5.0	100	100
5	7	29	MOVE	1000	6100	600.21	3516.06	100.50	3100.50	17.1	22.3	1.5	-0.7	-5.2	100	100
5	7	31	MOVE	1000	6100	645.86	3704.36	100.50	3300.50	17.3	23.4	1.3	-0.4	-6.1	100	100
5	7	32	MOVE	1000	6100	737.84	3678.21	196.50	3296.50	24.6	28.7	0.9	-0.5	-4.2	100	100
5	7	33	MOVE	1000	6100	830.97	3652.19	293.50	3293.50	17.8	22.3	0.5	-0.6	-4.5	100	100
5	7	35	MOVE	1000	6100	1016.67	3599.25	486.50	3286.50	14.7	18.0	0.4	-1.0	-3.3	100	100
5	7	36	MOVE	1000	6100	1108.63	3572.71	582.50	3282.50	16.9	22.0	0.1	-0.9	-5.0	100	100
5	7	37	MOVE	1000	6100	1202.62	3546.91	679.50	3279.50	16.5	21.1	0.5	-0.8	-4.6	100	100
5	7	38	MOVE	1000	6100	1294.60	3521.28	775.50	3275.50	15.2	21.2	0.2	-0.8	-6.0	100	100
5	7	40	MOVE	1000	6100	1483.40	3469.40	968.50	3268.50	15.3	16.5	3.2	0.9	-1.2	100	100
5	7	42	MOVE	1000	6100	1668.02	3418.15	1162.50	3262.50	14.9	17.8	0.8	-0.5	-2.8	100	100
5	7	44	MOVE	1000	6100	1853.07	3363.39	1355.50	3259.50	14.5	17.9	0.0	-0.7	-3.5	100	100
5	7	46	MOVE	1000	6100	1945.48	3338.72	1451.50	3251.50	14.3	17.2	0.1	-0.7	-2.9	100	100
5	7	49	MOVE	1000	6100	2317.94	3232.21	1837.50	3237.50	13.6	16.2	1.0	-0.4	-2.6	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM Zone 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
7	51	MOVE	1000	6100	2504.33	3179.87	2031.50	3231.50	17.2	20.9	0.4	-1.1	-3.7	100	100
7	52	MOVE	1000	6100	2597.91	3153.89	2127.50	3227.50	19.7	28.1	1.7	-0.5	-8.4	100	100
7	53	MOVE	1000	6100	2691.20	3128.05	2224.50	3224.50	18.3	24.2	1.5	-0.5	-5.9	100	100
7	54	MOVE	1000	6100	2783.95	3101.56	2320.50	3220.50	16.6	21.1	2.0	-0.4	-4.5	100	100
7	55	MOVE	1000	6100	2877.19	3075.75	2417.50	3217.50	24.4	29.5	1.7	-0.4	-5.1	100	100
7	85	MOVE	1000	6100	2854.90	2829.33	2453.58	2974.02	17.5	20.7	2.3	-0.4	-3.2	100	100
7	86	MOVE	1000	6100	2834.17	2734.96	2456.12	2876.00	15.8	20.3	1.9	-0.4	-4.5	100	100
7	89	MOVE	1000	6100	2770.66	2453.68	2459.78	2585.50	20.0	25.7	3.5	1.0	-5.7	100	100
7	90	MOVE	1000	6100	2749.60	2359.61	2461.33	2488.40	14.1	16.6	3.8	1.4	-2.5	100	100
7	92	MOVE	1000	6100	2633.72	2293.15	2366.54	2393.83	16.9	22.5	3.9	2.3	-5.6	100	100
7	93	MOVE	1000	6100	2542.94	2321.29	2269.94	2491.43	19.1	27.0	3.5	2.3	-7.9	100	100
7	95	MOVE	1000	6100	2357.65	2377.07	2076.47	2414.81	21.5	25.4	3.5	2.4	-3.9	100	100
7	96	MOVE	1000	6100	2266.14	2405.01	1981.42	2417.39	17.6	20.9	2.8	2.3	-3.4	100	100
7	97	MOVE	1000	6100	2172.55	2433.01	1883.44	2422.46	16.7	19.8	3.1	2.4	-3.1	100	100
7	99	MOVE	1000	6100	1987.15	2489.48	1689.85	2433.99	15.7	18.7	3.0	1.9	-3.0	100	100
7	105	MOVE	1000	6100	1616.79	2600.17	1304.64	2494.73	18.2	22.0	2.1	1.4	-3.8	100	100
7	107	MOVE	1000	6100	1245.84	2711.69	918.57	2478.66	16.6	20.1	1.5	0.6	-3.4	100	100
7	108	MOVE	1000	6100	1152.19	2739.91	820.65	2482.42	21.1	19.1	1.8	0.8	-2.0	100	100
7	109	MOVE	1000	6100	1060.74	2770.37	722.63	2503.33	17.9	18.7	0.8	-7.8	-0.8	100	100
7	110	MOVE	1000	6100	966.71	2795.69	627.69	2493.45	13.9	16.8	1.5	-0.3	-2.8	100	100
7	111	MOVE	1000	6100	873.66	2822.23	531.24	2496.69	17.1	20.9	1.1	-0.3	-3.8	100	100
7	113	MOVE	1000	6100	686.55	2878.90	337.43	2507.99	17.3	20.1	1.0	-0.3	-2.8	100	100
7	114	MOVE	1000	6100	596.11	2906.95	240.57	2515.33	18.4	21.9	1.4	-0.4	-3.5	100	100
7	115	MOVE	1000	6100	502.89	2934.84	143.35	2518.09	18.4	22.1	1.5	-0.1	-3.7	100	100
7	116	MOVE	1000	6100	409.80	2962.52	45.48	2522.46	14.2	19.1	2.5	0.1	-4.9	100	100
7	301	MOVE	1000	6100	1600.46	3423.74	1095.00	3294.00	0.0	0.0	0.8	-0.7	0.0	100	100
7	302	MOVE	1000	6100	1620.15	3439.54	1112.00	3270.00	0.0	0.0	0.2	-0.4	0.0	100	100
7	303	MOVE	1000	6100	1809.10	3407.50	1302.00	3208.00	0.0	0.0	0.3	-0.8	0.0	100	100
7	304	MOVE	1000	6100	1844.20	3294.45	1363.00	3107.00	0.0	0.0	0.0	-1.3	0.0	100	100
7	305	MOVE	1000	6100	1884.04	3221.37	1419.00	3125.00	0.0	0.0	0.1	-0.9	0.0	100	100
7	306	MOVE	1000	6100	1788.56	3[illegible]	1299.00	3213.00	0.0	0.0	-0.1	-0.8	0.0	100	100
7	307	MOVE	1000	6100	1946.82	3291.92	1465.00	3209.00	0.0	0.0	-0.4	-1.0	0.0	100	100
7	308	MOVE	1000	6100	2027.98	3327.25	1534.00	3202.00	0.0	0.0	-0.0	-0.9	0.0	100	100
7	309	MOVE	1000	6100	2205.88	3352.27	1705.00	3209.00	0.0	0.0	-0.7	-1.1	0.0	100	100
7	310	MOVE	1000	6100	2163.23	3286.28	1674.00	3254.00	0.0	0.0	1.2	-1.0	0.0	100	100
7	311	MOVE	1000	6100	2092.37	3360.92	1588.00	3310.00	0.0	0.0	0.6	-1.0	0.0	100	100
7	312	MOVE	1000	6100	1974.73	3423.63	1458.00	3348.00	0.0	0.0	0.2	-1.0	0.0	100	100
7	313	MOVE	1000	6100	1260.51	3601.19	723.00	3548.00	0.0	0.0	0.5	-0.8	0.0	100	100
7	314	MOVE	1000	6100	1382.86	3579.67	847.00	3524.00	0.0	0.0	0.5	-0.7	0.0	100	100
8	1	MOVE	1000	6100	2539.91	1939.16	2360.32	2039.00	137.2	65.6	-2.0	-7.5	71.6	0	100
8	3	MOVE	1000	6100	2582.43	2130.64	2356.29	2231.57	122.7	60.8	-0.8	-3.4	61.8	0	100
8	4	MOVE	1000	6100	2603.83	2227.59	2354.02	2329.11	130.3	64.0	-0.2	-1.5	66.3	0	100
8	5	MOVE	1000	6100	2625.46	2324.40	2352.24	2427.50	129.3	60.9	-0.0	-0.5	68.4	0	100
8	6	MOVE	1000	6100	2647.33	2421.03	2351.02	2525.30	129.3	65.6	-0.1	0.8	63.7	0	100
8	7	MOVE	1000	6100	2668.77	2519.23	2348.27	2625.33	124.7	62.3	0.5	1.7	62.4	0	100
8	8	MOVE	1000	6100	2692.64	2611.32	2353.13	2719.50	42.1	27.7	-1.6	7.6	14.4	0	100
8	9	MOVE	1000	6100	2711.82	2710.00	2342.87	2820.50	48.6	36.7	1.2	2.0	11.8	0	100
8	10	MOVE	1000	6100	2733.58	2[illegible]3.33	2340.89	2920.50	48.9	33.8	1.3	2.2	15.1	0	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
0	11	MOVE	1000	6100	2755.20	2912.57	2338.35	3026.27	40.5	23.3	1.4	1.6	17.2		
0	12	MOVE	1000	6100	2777.55	3011.87	2336.76	3130.34	40.5	22.7	1.1	1.3	17.8	0	100
0	13	MOVE	1000	6100	2800.48	3110.09	2336.89	3231.61	116.7	59.4	-0.1	1.2	59.3	0	100
0	14	MOVE	1000	6100	2821.65	3209.71	2332.96	3333.78	44.4	24.3	0.8	0.6	20.1	0	100
0	56	MOVE	1000	6100	2967.96	3056.60	2513.50	3213.50	73.5	36.1	0.2	1.0	37.4	0	100
0	57	MOVE	1000	6100	3062.14	3023.68	2610.50	3210.50	40.6	22.3	0.9	-0.1	18.3	0	100
0	58	MOVE	1000	6100	3154.56	2990.26	2706.50	3206.50	37.6	23.5	1.0	-1.0	14.1	0	100
0	60	MOVE	1000	6100	3340.70	2945.01	2900.50	3200.50	118.5	61.9	0.1	-0.5	56.6	0	100
0	61	MOVE	1000	6100	3138.98	2095.85	2900.50	4329.50	131.8	66.3	4.0	-3.2	65.5	0	100
0	106	MOVE	1000	6100	2671.20	1903.00	2496.38	4035.25	104.2	58.6	-1.7	-7.4	45.6	0	100
0	7	MOVE	3500	5300	150.21	1170.20	50.50	593.50	21.0	26.8	-1.1	-5.9	-5.8	100	100
0	8	MOVE	3500	5300	196.54	1363.51	50.50	790.50	18.6	24.7	-0.1	-6.6	-6.1	100	100
0	9	MOVE	3500	5300	218.31	1459.48	50.50	888.50	22.1	27.2	-0.9	-7.2	-5.0	100	100
0	10	MOVE	3500	5300	240.38	1556.75	50.50	987.50	18.5	25.0	-1.6	-7.5	-6.4	100	100
0	12	MOVE	3500	5300	308.55	1847.94	50.50	1283.50	21.3	27.8	-1.6	-7.4	-6.5	100	100
0	13	MOVE	3500	5300	330.91	1945.07	50.50	1380.50	17.2	23.5	-1.4	-6.8	-6.3	100	100
0	14	MOVE	3500	5300	354.21	2043.29	50.50	1479.50	17.9	24.1	-1.6	-6.1	-6.2	100	100
0	15	MOVE	3500	5300	376.87	2140.31	50.50	1577.50	22.9	28.8	-1.1	-5.4	-5.9	100	100
0	16	MOVE	3500	5300	443.68	2429.84	50.50	1874.50	28.2	30.2	-0.9	-4.9	-2.0	100	100
0	31	MOVE	3500	5300	738.00	3685.88	50.50	3131.50	31.4	31.5	-2.0	-5.8	-0.1	100	100
0	32	MOVE	3500	5300	759.97	3780.47	50.50	3230.50	18.5	24.3	-2.8	-10.5	-5.8	100	100
0	61	MOVE	3500	5300	820.41	3661.63	111.83	3140.51	22.9	30.0	-3.7	-13.6	-7.2	100	100
0	62	MOVE	3500	5300	796.85	3565.18	110.87	3048.18	22.4	28.0	-2.8	-10.4	-5.6	100	100
0	63	MOVE	3500	5300	775.80	3467.68	114.02	2947.13	23.4	27.2	-2.1	-8.1	-3.7	100	100
0	64	MOVE	3500	5300	750.16	3372.55	109.86	2850.50	42.9	27.1	-4.1	-4.9	15.8	100	100
0	65	MOVE	3500	5300	727.31	3278.16	109.39	2751.26	21.0	27.6	-1.3	-4.0	-6.6	100	100
0	66	MOVE	3500	5300	703.98	3182.92	108.50	2653.41	26.0	31.3	-1.1	-2.9	-5.2	100	100
0	68	MOVE	3500	5300	658.05	2993.16	107.52	2459.42	29.4	31.3	-0.6	-2.0	-1.9	100	100
0	70	MOVE	3500	5300	608.07	2809.20	99.04	2273.53	20.2	26.3	-0.5	-0.8	-16.1	100	100
0	301	MOVE	3500	5300	153.31	903.79	96.00	333.00	17.5	25.1	4.0	-4.4	-7.6	100	100
0	302	MOVE	3500	5300	139.95	923.78	83.00	351.00	0.0	0.0	-0.3	-1.3	0.0	100	100
0	303	MOVE	3500	5300	129.55	897.94	80.00	323.00	0.0	0.0	0.3	-1.7	0.0	100	100
0	304	MOVE	3500	5300	236.65	1061.41	128.00	510.00	0.0	0.0	0.4	-1.2	0.0	100	100
0	305	MOVE	3500	5300	94.99	1067.21	33.00	481.00	0.0	0.0	-0.8	-4.2	0.0	100	100
0	308	MOVE	3500	5300	208.72	1372.26	58.00	803.00	0.0	0.0	-1.7	-4.3	0.0	100	100
0	309	MOVE	3500	5300	200.37	1408.68	43.00	842.00	0.0	0.0	-1.0	-7.8	0.0	100	100
0	312	MOVE	3500	5300	134.31	1191.31	36.00	610.00	0.0	0.0	2.0	-14.9	0.0	100	100
0	313	MOVE	3500	5300	331.76	1567.62	112.00	1022.00	0.0	0.0	-1.1	-6.2	0.0	100	100
0	314	MOVE	3500	5300	235.90	1591.05	42.00	1020.00	0.0	0.0	-1.7	-6.2	0.0	100	100
0	315	MOVE	3500	5300	274.64	1684.96	54.00	1110.00	0.0	0.0	-2.1	-8.2	0.0	100	100
0	316	MOVE	3500	5300	308.76	1503.37	107.00	894.00	0.0	0.0	-2.2	-6.5	0.0	100	100
0	317	MOVE	3500	5300	198.87	1480.09	33.00	904.00	0.0	0.0	-2.3	-7.3	0.0	100	100
0	318	MOVE	3500	5300	314.74	1604.70	94.00	1052.00	0.0	0.0	-0.2	-8.1	0.0	100	100
0	319	MOVE	3500	5300	290.66	1784.62	49.00	1218.00	0.0	0.0	-1.2	-7.4	0.0	100	100
0	320	MOVE	3500	5300	427.40	1870.02	129.00	1333.00	0.0	0.0	-2.4	-7.1	0.0	100	100
0	321	MOVE	3500	5300	422.38	1931.54	116.00	1390.00	0.0	0.0	-0.8	-5.8	0.0	100	100
0	322	MOVE	3500	5300	301.16	1836.94	47.00	1270.00	0.0	0.0	-1.3	-5.3	0.0	100	100
											-1.1	-6.7	0.0	100	100

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
0	323	MOVE	3500	5300	289.88	1841.04	38.00	2277.00	0.0	0.0	-1.8	-6.7	0.0	100	100
0	324	MOVE	3500	5300	266.85	1826.41	25.00	2254.00	0.0	0.0	-1.4	-7.2	0.0	100	100
0	325	MOVE	3500	5300	329.79	1886.23	59.00	2324.00	0.0	0.0	-1.2	-6.4	0.0	100	100
0	326	MOVE	3500	5300	446.80	2033.24	117.00	2493.00	0.0	0.0	-1.2	-4.7	0.0	100	100
0	327	MOVE	3500	5300	320.24	2124.00	15.00	2548.00	0.0	0.0	-2.5	-4.6	0.0	100	100
0	328	MOVE	3500	5300	389.53	2347.03	24.00	2770.00	0.0	0.0	-2.0	-2.9	0.0	100	100
0	329	MOVE	3500	5300	483.07	2562.55	56.00	2989.00	0.0	0.0	-0.6	-1.6	0.0	100	100
0	330	MOVE	3500	5300	576.61	2713.26	96.00	3172.00	0.0	0.0	-0.1	-1.3	0.0	100	100
0	331	MOVE	3500	5300	540.66	2771.05	62.00	3218.00	0.0	0.0	-0.2	-0.8	0.0	100	100
0	332	MOVE	3500	5300	540.91	2957.74	32.00	3397.00	0.0	0.0	-0.5	-1.2	0.0	100	100
0	333	MOVE	3500	5300	630.91	3045.65	80.00	3503.00	0.0	0.0	-0.2	-0.9	0.0	100	100
0	334	MOVE	3500	5300	680.40	2993.88	127.00	3467.00	0.0	0.0	-0.3	-0.7	0.0	100	100
0	335	MOVE	3500	5300	670.59	3261.37	73.00	3721.00	0.0	0.0	-1.4	-2.6	0.0	100	100
0	337	MOVE	3500	5300	766.34	3267.97	138.00	3751.00	0.0	0.0	-0.9	-2.8	0.0	100	100
0	338	MOVE	3500	5300	734.68	3203.80	126.00	3681.00	0.0	0.0	-0.1	-2.2	0.0	100	100
0	339	MOVE	3500	5300	687.45	3143.02	107.00	3616.00	0.0	0.0	-0.5	-5.5	0.0	100	100
0	340	MOVE	3500	5300	795.29	3630.06	99.00	4111.00	0.0	0.0	-2.1	-9.4	0.0	100	100
0	341	MOVE	3500	5300	688.47	3569.72	35.00	3965.00	0.0	0.0	-2.1	-7.4	0.0	100	100
0	342	MOVE	3500	5300	692.36	3661.09	23.00	4116.00	0.0	0.0	-2.9	-10.0	0.0	100	100
0	343	MOVE	3500	5300	712.39	3661.76	37.00	4121.00	0.0	0.0	-2.7	-9.3	0.0	100	100
0	344	MOVE	3500	5300	787.15	3671.01	87.00	4149.00	0.0	0.0	-2.7	-10.1	0.0	100	100
0	345	MOVE	3500	5300	744.94	3723.12	49.00	4190.00	0.0	0.0	-2.7	-11.8	0.0	100	100
0	346	MOVE	3500	5300	803.18	3858.96	67.00	4339.00	0.0	0.0	-3.8	-16.6	0.0	100	100
0	347	MOVE	3500	5300	860.21	3848.27	109.00	4343.00	0.0	0.0	-4.3	-16.4	0.0	100	100
0	348	MOVE	3500	5300	636.68	3696.75	14.00	3149.00	0.0	0.0	-4.3	-10.0	0.0	100	100
0	4	FIX	3500	5300	1250.43	2549.87	589.86	2177.10	34.4*******		0.0	0.0**********		100	100
0	5	FIX	3500	5300	3016.84	1846.08	1929.63	1940.44	34.6*******		0.0	0.0**********		100	100
0	6	FIX	3500	5300	2399.73	2362.74	1417.50	2281.26	30.5*******		0.0	0.0**********		100	100
0	7	FIX	3500	5300	616.49	2715.09	123.69	2682.40	34.8*******		0.0	0.0**********		100	100
0	8	FIX	3500	5300	2196.51	1103.18	1481.10	1057.89	33.5*******		0.0	0.0**********		100	100
0	9	FIX	3500	5300	2656.14	537.39	1893.05	808.93	27.4*******		0.0	0.0**********		100	100
0	11	FIX	3500	5300	887.40	800.56	621.29	419.15	26.9*******		0.0	0.0**********		100	100
0	12	FIX	3500	5300	1310.57	1152.10	857.48	865.88	30.4*******		0.0	0.0**********		100	100
0	14	FIX	3500	5300	2157.80	589.93	1537.93	953.43	22.8*******		0.0	0.0**********		100	100
0	15	FIX	3500	5300	70.12	824.82	51.15	636.78	38.3*******		0.0	0.0**********		100	100
0	17	FIX	3500	5300	1316.75	2872.17	585.07	2503.90	28.7*******		0.0	0.0**********		100	100
0	18	FIX	3500	5300	3093.20	2554.56	1867.08	2040.39	39.5*******		0.0	0.0**********		100	100
0	19	FIX	3500	5300	2666.18	1213.71	1790.93	1257.04	32.1*******		0.0	0.0**********		100	100
0	20	FIX	3500	5300	1630.74	308.25	1222.11	121.89	34.4*******		0.0	0.0**********		100	100
0	21	FIX	3500	5300	1312.43	433.67	976.13	169.13	36.7*******		0.0	0.0**********		100	100
0	23	FIX	3500	5300	572.52	940.67	380.42	477.39	30.4*******		0.0	0.0**********		100	100
0	24	FIX	3500	5300	794.65	1954.74	370.22	1501.71	25.1*******		0.0	0.0**********		100	100
0	25	FIX	3500	5300	1252.08	2094.07	864.98	1745.89	32.9*******		0.0	0.0**********		100	100
0	19	MOVE	3500	5300	460.24	2523.11	50.50	1970.50	0.0	69.5	-8.0	-9.6	-69.5	0	100
0	21	MOVE	3500	5300	512.86	2722.69	50.50	2187.50	128.3	68.5	-0.8	-3.5	59.8	0	100
0	24	MOVE	3500	5300	581.74	3017.35	50.50	2482.50	107.2	66.1	0.0	0.3	41.1	0	100
0	25	MOVE	3500	5300	604.15	3119.22	50.50	2581.50	111.9	67.9	-0.4	0.6	44.0	0	100
0	26	MOVE	3500	5300	626.57	3219.16	50.50	2679.50	118.2	71.7	-0.6	-1.1	46.5	0	100

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
0	8	27	MOVE	3500	5300	649.20	3306.41	50.50	2758.50	108.9	62.3	-0.9	-2.5	46.6	0 100
0	8	29	MOVE	3500	5300	693.47	3496.33	50.50	2954.50	39.3	26.1	-1.8	-5.8	13.2	0 100
0	8	30	MOVE	3500	5300	715.89	3591.44	50.50	3053.50	109.6	71.2	-2.3	-8.3	38.4	0 100
0	8	34	MOVE	3500	5300	1017.30	3703.18	241.50	3256.50	33.6	23.4	-2.8	-13.3	10.1	0 100
0	8	35	MOVE	3500	5300	1144.95	3661.14	336.50	3230.50	32.4	22.7	-3.1	-13.5	9.7	0 100
0	8	38	MOVE	3500	5300	1531.98	3542.46	623.50	3210.50	34.0	23.9	-2.1	-12.8	10.1	0 100
0	8	39	MOVE	3500	5300	1661.25	3503.27	719.50	3204.50	39.5	27.5	-2.0	-12.3	12.0	0 100
0	8	40	MOVE	3500	5300	1790.25	3462.83	815.50	3197.50	42.9	29.2	-1.9	-11.9	13.6	0 100
0	8	41	MOVE	3500	5300	1918.13	3423.61	910.50	3191.50	57.9	39.6	-1.8	-11.7	18.4	0 100
0	8	42	MOVE	3500	5300	2046.76	3383.15	1006.50	3184.50	37.0	25.7	-2.0	-11.4	11.3	0 100
0	8	44	MOVE	3500	5300	2303.42	3302.98	1197.50	3171.50	43.6	28.7	-2.0	-11.4	14.8	0 100
0	8	45	MOVE	3500	5300	2432.45	3263.55	1293.50	3165.50	48.3	32.9	-2.1	-11.1	15.4	0 100
0	8	81	MOVE	3500	5300	3060.77	2414.96	1867.66	2493.77	128.3	70.8	0.6	4.3	57.5	0 100
0	8	82	MOVE	3500	5300	3037.33	2317.33	1866.28	2391.97	148.2	68.0	2.6	6.3	50.2	0 100
0	8	83	MOVE	3500	5300	3017.99	2225.04	1868.81	2302.77	55.7	22.4	2.3	2.0	13.3	0 100
0	8	84	MOVE	3500	5300	2996.88	2129.43	1869.91	2206.80	47.5	30.7	0.2	0.8	18.9	0 100
0	8	85	MOVE	3500	5300	2975.68	2034.72	1870.56	2112.30	52.5	33.2	-0.8	-1.3	19.4	0 100
0	8	87	MOVE	3500	5300	2954.95	1941.57	1871.39	2020.54	57.2	35.4	-1.3	-3.9	21.9	0 100
0	8	88	MOVE	3500	5300	2688.65	2014.30	1674.02	2024.89	84.6	42.5	-1.0	-4.3	22.1	0 100
0	8	89	MOVE	3500	5300	2555.67	2049.61	1576.79	2029.90	45.5	34.0	-1.2	-3.9	11.6	0 100
0	8	91	MOVE	3500	5300	2424.15	2086.41	1479.51	2029.56	51.4	33.9	-1.3	-4.3	17.5	0 100
0	8	92	MOVE	3500	5300	2158.24	2153.99	1283.24	2032.77	49.9	31.4	-1.1	-3.6	18.5	0 100
0	8	93	MOVE	3500	5300	2025.02	2195.51	1184.64	2034.81	48.0	32.0	-0.8	-3.7	16.0	0 100
0	8	94	MOVE	3500	5300	1893.69	2232.56	1087.49	2037.91	50.5	24.6	-0.7	-3.7	11.9	0 100
0	8	96	MOVE	3500	5300	1761.34	2267.03	990.78	2038.64	110.1	65.3	-1.3	-1.8	50.8	0 100
0	8	97	MOVE	3500	5300	1496.12	2342.91	793.40	2040.49	110.8	67.4	-0.0	-3.2	49.4	0 100
0	8	98	MOVE	3500	5300	1349.84	2373.20	678.72	2029.56	115.1	65.7	13.4	2.9	49.4	0 100
0	8	99	MOVE	3500	5300	1230.58	2415.62	567.57	2048.31	111.3	60.9	-0.1	-2.4	50.4	0 100
0	8	100	MOVE	3500	5300	1097.67	2451.74	499.51	2050.95	36.0	24.1	-0.2	-3.4	11.8	0 100
0	8	101	MOVE	3500	5300	966.41	2488.21	402.62	2055.15	42.3	28.2	-0.4	-4.3	14.1	0 100
0	8	103	MOVE	3500	5300	833.30	2523.13	304.66	2056.56	134.1	79.4	-0.4	-4.4	54.7	0 100
0	8	104	MOVE	3500	5300	566.87	2598.98	106.56	2067.20	132.2	71.7	0.1	-9.2	60.5	0 100
0	8	302	MOVE	3500	5300	425.80	2639.15	-5.35	2073.74	35.9	0.0	-9.7	-14.3	33.9	0 100
0	8	303	MOVE	3500	5300	2740.09	3143.62	1526.00	3125.00	0.0	0.0	-1.2	-9.1	0.0	0 100
0	8	304	MOVE	3500	5300	2823.63	3108.96	1590.00	3114.00	0.0	0.0	-1.5	-7.3	0.0	0 100
0	8	305	MOVE	3500	5300	3074.61	3091.10	1767.00	3107.00	0.0	0.0	-1.8	-8.1	0.0	0 100
0	8	306	MOVE	3500	5300	3097.79	3041.37	1791.00	3114.00	0.0	0.0	-1.3	-7.0	0.0	0 100
0	8	307	MOVE	3500	5300	2782.96	3038.53	1573.00	3051.00	0.0	0.0	-0.6	-4.9	0.0	0 100
0	8	308	MOVE	3500	5300	2742.15	2989.46	1553.00	2972.00	0.0	0.0	-0.6	-2.9	0.0	0 100
0	8	309	MOVE	3500	5300	3147.55	2922.23	1845.00	3009.00	0.0	0.0	-0.7	-3.6	0.0	0 100
0	8	310	MOVE	3500	5300	3060.95	2843.17	1798.00	2909.00	0.0	0.0	-0.3	-0.6	0.0	0 100
0	8	311	MOVE	3500	5300	2710.68	2880.87	1548.00	2864.00	0.0	0.0	-0.3	-0.7	0.0	0 100
0	8	312	MOVE	3500	5300	3041.05	2778.46	1795.00	2840.00	0.0	0.0	-0.2	1.7	0.0	0 100
0	8	313	MOVE	3500	5300	3154.36	2760.33	1876.00	2852.00	0.0	0.0	-0.2	0.3	0.0	0 100
0	8	314	MOVE	3500	5300	2684.45	2750.56	1552.00	2724.00	0.0	0.0	-0.3	2.4	0.0	0 100
0	8	315	MOVE	3500	5300	2881.73	2705.92	1696.00	2730.00	0.0	0.0	-0.5	2.7	0.0	0 100
0	8	316	MOVE	3500	5300	2962.22	2585.60	1771.00	2653.00	0.0	0.0	1.3	4.1	0.0	0 100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
6	317	MOVE	3500	5300	3022.67	2575.82	1815.00	2639.00	0.0	0.0	0.6	4.0	0.0	0	100
7	25	MOVE	1100	8300	400.40	936.70	528.41	990.39	22.3	94.4	6.9	4.1	-72.1	100	100
7	27	MOVE	1100	8300	454.48	1128.76	546.43	780.99	23.5	18.4	-1.3	0.5	5.0	100	100
7	29	MOVE	1100	8300	500.21	1316.06	550.30	922.00	22.3	17.1	-1.5	0.7	5.2	100	100
7	31	MOVE	1100	8300	545.86	1504.86	553.28	1140.24	23.4	17.3	-1.3	0.4	6.1	100	100
7	33	MOVE	1100	8300	637.84	1478.21	648.43	1142.44	28.7	24.6	-0.9	0.5	4.2	100	100
7	33	MOVE	1100	8300	730.97	1452.19	744.61	1137.38	22.3	17.8	-0.5	0.6	4.5	100	100
7	35	MOVE	1100	8300	916.67	1399.25	937.51	1130.24	18.0	14.7	-0.4	1.0	3.3	100	100
7	36	MOVE	1100	8300	1008.63	1372.71	1032.70	1120.81	22.0	16.9	-0.1	0.9	5.0	100	100
7	37	MOVE	1100	8300	1102.62	1340.91	1130.47	1110.30	21.1	16.5	-0.5	0.8	4.6	100	100
7	38	MOVE	1100	8300	1194.60	1320.28	1225.67	1110.49	21.2	15.2	-0.2	0.8	6.0	100	100
7	40	MOVE	1100	8300	1383.40	1269.40	1423.58	1104.73	18.5	15.3	-3.2	-0.9	1.2	100	100
7	42	MOVE	1100	8300	1568.02	1216.15	1613.63	1091.08	17.8	14.9	-0.8	0.5	2.8	100	100
7	44	MOVE	1100	8300	1753.07	1163.39	1805.33	1080.77	17.9	14.5	-0.0	0.7	3.5	100	100
7	45	MOVE	1100	8300	1845.48	1136.72	1901.54	1075.19	17.2	14.3	-0.1	0.7	2.9	100	100
7	49	MOVE	1100	8300	2217.94	1032.21	2288.08	1059.06	16.2	13.6	-1.0	0.4	2.6	100	100
7	51	MOVE	1100	8300	2404.33	979.87	2480.45	1044.81	20.9	17.2	-0.4	1.1	3.7	100	100
7	52	MOVE	1100	8300	2497.91	953.89	2578.37	1040.90	28.1	19.7	-1.7	0.5	8.4	100	100
7	53	MOVE	1100	8300	2591.20	923.05	2674.61	1033.71	24.2	18.3	-1.5	0.5	5.9	100	100
7	54	MOVE	1100	8300	2683.95	901.56	2771.32	1030.41	21.1	16.6	-2.0	0.4	4.5	100	100
7	55	MOVE	1100	8300	2777.19	875.75	2867.69	1025.89	25.5	24.4	-1.7	0.4	5.1	100	100
7	85	MOVE	1100	8300	2754.90	629.33	2900.50	760.50	20.7	17.5	-2.3	0.4	3.2	100	100
7	86	MOVE	1100	8300	2734.17	534.96	2900.50	663.50	20.3	15.8	-1.9	0.4	4.5	100	100
7	89	MOVE	1100	8300	2670.66	253.68	2900.50	393.50	25.7	20.0	-3.5	-1.0	5.7	100	100
7	90	MOVE	1100	8300	2649.60	159.61	2900.50	296.50	16.6	14.1	-3.8	-1.4	2.5	100	100
7	92	MOVE	1100	8300	2535.72	93.15	2803.50	268.50	22.5	16.9	-3.9	-2.3	5.6	100	100
7	93	MOVE	1100	8300	2442.94	121.29	2706.50	213.50	27.0	19.1	-3.5	-2.3	7.9	100	100
7	95	MOVE	1100	8300	2257.65	177.07	2513.50	227.50	29.4	21.5	-3.5	-2.4	3.9	100	100
7	96	MOVE	1100	8300	2166.14	205.01	2417.50	234.50	20.9	17.6	-2.8	-2.3	3.4	100	100
7	97	MOVE	1100	8300	2072.55	233.01	2320.50	241.50	19.8	16.7	-3.1	-2.4	3.1	100	100
7	99	MOVE	1100	8300	1887.15	289.48	2127.50	255.50	18.7	15.7	-3.0	-1.9	3.0	100	100
7	103	MOVE	1100	8300	1516.79	400.17	1741.50	284.50	22.0	18.2	-2.1	-1.4	3.8	100	100
7	107	MOVE	1100	8300	1145.84	511.69	1355.50	310.50	20.1	16.6	-1.5	-0.6	3.4	100	100
7	108	MOVE	1100	8300	1052.19	539.91	1258.50	317.50	19.1	21.1	-1.8	-0.1	-2.0	100	100
7	109	MOVE	1100	8300	960.74	573.37	1162.50	324.50	18.7	17.9	-0.8	0.8	0.8	100	100
7	110	MOVE	1100	8300	866.71	595.69	1065.50	331.50	16.8	13.9	-1.5	0.3	2.8	100	100
7	111	MOVE	1100	8300	773.66	622.23	968.50	337.50	20.9	17.1	-1.1	-0.3	3.8	100	100
7	113	MOVE	1100	8300	588.55	673.90	775.50	351.50	20.1	17.3	-1.0	0.3	2.8	100	100
7	114	MOVE	1100	8300	496.11	706.95	679.50	358.50	21.9	18.4	-1.4	0.4	3.5	100	100
7	115	MOVE	1100	8300	402.89	734.84	582.50	365.50	22.1	18.4	-1.5	-0.1	3.7	100	100
7	116	MOVE	1100	8300	309.80	762.52	486.50	372.50	19.1	14.2	-2.5	-0.1	4.9	100	100
7	301	MOVE	1100	8300	1500.46	1223.74	1546.00	1084.00	0.0	0.0	-0.8	0.7	0.0	100	100
7	302	MOVE	1100	8300	1520.15	1232.54	1562.00	1100.00	0.0	0.0	-0.2	0.4	0.0	100	100
7	303	MOVE	1100	8300	1709.10	1207.50	1753.00	1114.00	0.0	0.0	-0.3	0.8	0.0	100	100
7	304	MOVE	1100	8300	1744.20	1094.45	1812.00	1011.00	0.0	0.0	-0.8	1.3	0.0	100	100
7	305	MOVE	1100	8300	1784.04	1021.37	1867.00	949.00	0.0	0.0	-0.1	0.9	0.0	100	100
7	306	MOVE	1100	8300	1684.56	1137.34	1748.00	1041.00	0.0	0.0	0.1	0.8	0.0	100	100
7	307	MOVE	1100	8300	1848.82	1091.92	1915.00	1052.00	0.0	0.0	-0.4	1.0	0.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	BASE FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
7	5	MOVE	1100	8300	1927.98	1127.25	1984.00	1084.00	0.0	0.0	0.0	0.9	0.0	100	100
7	5	MOVE	1100	8300	2105.88	1132.27	2157.00	1128.00	0.0	0.0	-0.7	1.1	0.0	100	100
7	5	MOVE	1100	8300	2063.23	1086.28	2126.00	1074.00	0.0	0.0	-1.2	1.0	0.0	100	100
7	5	MOVE	1100	8300	1992.37	1160.92	2040.00	1121.00	0.0	0.0	-0.6	1.0	0.0	100	100
7	5	MOVE	1100	8300	1874.73	1228.63	1910.00	1171.00	0.0	0.0	-0.2	1.0	0.0	100	100
7	5	MOVE	1100	8300	1160.51	1401.19	1175.00	1182.00	0.0	0.0	-0.5	0.8	0.0	100	100
7	5	MOVE	1100	8300	1282.86	1379.67	1299.00	1160.00	0.0	0.0	-0.5	0.7	0.0	100	100
7	7	FIX	1100	8300	289.53	1872.32	221.47	1950.27	38.9*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	259.45	2397.06	76.73	1990.43	33.1*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	517.94	2834.19	231.52	2439.15	32.6*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	803.75	2872.27	501.63	2539.48	36.6*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	1755.55	2883.14	1428.35	2759.93	22.0*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	2584.65	2273.06	2371.82	2340.81	24.8*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	2003.92	108.45	2277.74	100.25	27.7*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	1879.16	856.67	1995.87	810.20	36.6*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	1562.19	2236.41	1382.28	2080.97	25.8*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	917.68	830.95	1062.13	572.55	30.0*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	661.83	1280.25	714.43	954.88	29.6*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	1861.76	2832.45	1543.60	2733.20	32.4*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	2577.13	1931.07	2440.00	2011.78	34.6*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	2278.91	1499.05	2244.12	1524.84	36.0*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	2560.23	591.95	2716.47	701.08	27.5*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	729.05	2419.23	528.51	2086.90	30.4*******		0.0	0.0**********		100	100
7	7	FIX	1100	8300	1705.35	1633.46	1644.10	1970.89	33.6*******		0.0	0.0**********		100	100
7	8	MOVE	1100	8300	2744.98	1103.21	2784.33	1245.49	121.7	58.4	-0.8	0.2	63.3	0	100
7	8	MOVE	1100	8300	2784.85	1306.31	2783.58	1449.42	41.9	18.1	-0.8	-0.8	23.8	0	100
7	8	MOVE	1100	8300	2810.71	1404.69	2783.34	1550.24	121.9	55.8	-0.9	-1.1	66.0	0	100
7	8	MOVE	1100	8300	2832.57	1503.22	2783.03	1651.97	97.1	42.9	-1.0	-1.6	54.2	0	100
7	8	MOVE	1100	8300	2854.48	1602.42	2782.55	1753.69	80.1	37.4	-0.9	-1.8	42.7	0	100
7	8	MOVE	1100	8300	2876.77	1697.98	2784.39	1849.33	117.2	50.0	-1.4	0.7	67.2	0	100
7	8	MOVE	1100	8300	2898.22	1799.99	2781.78	1950.34	38.0	17.2	-0.8	-2.2	20.9	0	100
7	8	MOVE	1100	8300	2941.84	1995.11	2781.82	2159.59	118.1	54.8	-0.9	-1.2	63.2	0	100
7	8	MOVE	1100	8300	2963.39	2093.55	2780.95	2255.73	111.1	51.5	-0.4	-0.7	59.6	0	100
7	8	MOVE	1100	8300	2984.78	2190.60	2780.38	2354.80	87.7	40.0	-0.2	-0.4	47.7	0	100
7	8	MOVE	1100	8300	3006.07	2286.55	2780.09	2453.23	33.3	14.9	-0.2	-0.4	18.4	0	100
7	8	MOVE	1100	8300	3026.96	2380.33	2779.78	2550.34	108.0	47.3	-0.3	-1.0	60.7	0	100
7	8	MOVE	1100	8300	3047.86	2474.51	2779.72	2646.70	108.8	48.2	-0.5	-1.1	60.7	0	100
7	8	MOVE	1100	8300	3068.77	2569.06	2779.35	2743.39	30.5	13.1	-0.4	-1.0	17.3	0	100
7	8	MOVE	1100	8300	3089.40	2662.38	2778.93	2838.80	122.5	58.0	-0.2	-0.4	64.5	0	100
7	8	MOVE	1100	8300	3110.62	2757.98	2778.55	2935.31	38.0	16.0	0.6	2.9	21.9	0	100
7	8	MOVE	1100	8300	3249.24	2802.76	2900.50	3006.90	37.2	17.8	4.2	3.2	19.4	0	100
7	8	MOVE	1100	8300	3202.42	2610.29	2900.50	2812.90	39.2	16.8	-0.1	-0.3	22.5	0	100
7	8	MOVE	1100	8300	3181.20	2515.24	2900.50	2716.90	116.4	55.7	-0.3	-0.8	60.7	0	100
7	8	MOVE	1100	8300	3160.01	2421.62	2900.50	2619.90	34.9	15.1	-0.2	-0.9	19.8	0	100
7	8	MOVE	1100	8300	3138.80	2327.32	2900.50	2522.90	107.6	47.3	-0.1	-0.7	60.3	0	100
7	8	MOVE	1100	8300	3117.63	2233.42	2900.50	2425.90	99.3	43.2	-0.0	-0.0	52.1	0	100
7	8	MOVE	1100	8300	3096.50	2139.38	2900.50	2328.90	118.0	52.8	-0.1	-0.5	65.2	0	100
7	8	MOVE	1100	8300	3074.91	2044.80	2900.50	2232.90	41.3	18.9	-0.4	-0.5	22.4	0	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTER FRAME LINE	ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
7	8	71	MOVE	1100	8300	3053.59	1949.29	2900.50	2235.50	92.3	44.3	-0.5	-1.4	48.0	0	100
7	8	72	MOVE	1100	8300	3032.11	1854.52	2900.50	2038.50	118.4	56.0	-0.7	-1.5	62.4	0	100
7	8	73	MOVE	1100	8300	3010.93	1759.66	2900.50	1941.50	121.5	56.7	-0.7	-1.8	64.8	0	100
7	8	74	MOVE	1100	8300	2989.94	1665.93	2900.50	1842.50	112.6	51.8	-0.6	-1.9	60.8	0	100
7	8	75	MOVE	1100	8300	2968.44	1571.61	2900.50	1748.50	92.0	41.3	-0.9	-1.6	50.7	0	100
7	8	76	MOVE	1100	8300	2947.02	1478.93	2900.50	1651.50	107.8	47.4	-1.0	0.4	60.4	0	100
7	8	77	MOVE	1100	8300	2925.97	1383.05	2900.50	1554.50	109.4	47.7	-0.8	-0.9	61.7	0	100
7	8	78	MOVE	1100	8300	2904.85	1287.77	2900.50	1458.50	31.9	13.5	-0.9	-0.5	18.4	0	100
7	8	79	MOVE	1100	8300	2883.16	1195.80	2900.50	1361.50	121.8	56.6	-1.3	0.1	65.2	0	100
7	8	80	MOVE	1100	8300	2862.79	1101.49	2900.50	1264.50	110.1	51.0	-0.4	0.4	59.1	0	100
7	8	81	MOVE	1100	8300	2841.10	1007.66	2900.50	1167.50	117.8	56.8	-0.9	1.2	61.0	0	100
7	8	82	MOVE	1100	8300	2820.08	913.36	2900.50	1070.50	121.2	51.3	-0.6	1.5	69.9	0	100
7	8	83	MOVE	1100	8300	2799.38	820.08	2900.50	974.50	40.3	17.7	-0.3	1.9	22.5	0	100
7	8	84	MOVE	1100	8300	2777.95	725.94	2900.50	877.50	112.4	51.1	-0.5	2.4	61.3	0	100
7	9	19	MOVE	1100	8300	322.82	2567.99	100.50	2139.50	109.5	56.5	-0.6	-2.5	52.9	100	100
7	9	20	MOVE	1100	8300	344.26	2664.27	100.50	2236.50	110.9	60.7	-0.7	-0.9	50.2	100	100
7	9	21	MOVE	1100	8300	366.26	2759.99	100.50	2333.50	110.0	56.4	-0.3	0.1	54.1	100	100
7	9	22	MOVE	1100	8300	387.52	2853.86	100.50	2429.50	105.8	58.0	-0.4	0.3	45.8	100	100
7	9	23	MOVE	1100	8300	409.00	2949.41	100.50	2526.50	104.2	55.9	-0.3	1.3	48.3	100	100
7	9	24	MOVE	1100	8300	431.22	3045.00	100.50	2623.50	98.9	52.5	0.7	2.4	46.5	100	100
7	9	25	MOVE	1100	8300	452.29	3138.32	100.50	2719.50	95.8	52.3	0.7	2.2	43.5	100	100
7	9	26	MOVE	1100	8300	473.11	3232.79	100.50	2816.50	99.0	52.9	0.3	2.1	46.1	100	100
7	9	27	MOVE	1100	8300	495.25	3327.06	100.50	2913.50	95.3	51.7	1.1	1.8	43.6	100	100
7	9	28	MOVE	1100	8300	515.97	3420.34	100.50	3009.50	108.3	57.9	0.8	1.6	50.5	100	100
7	9	29	MOVE	1100	8300	537.46	3514.50	100.50	3106.50	103.5	50.7	1.0	1.2	52.8	100	100
7	9	30	MOVE	1100	8300	558.46	3608.14	100.50	3203.50	87.0	48.9	0.8	0.3	38.1	100	100
7	9	31	MOVE	1100	8300	579.85	3702.02	100.50	3300.50	105.6	56.6	0.9	-0.3	49.0	100	100
7	9	32	MOVE	1100	8300	672.28	3676.85	196.50	3290.50	98.5	52.0	0.5	-0.5	46.4	100	100
7	9	33	MOVE	1100	8300	767.13	3651.61	293.50	3295.50	104.3	56.8	1.4	-1.4	47.5	100	100
7	9	34	MOVE	1100	8300	859.06	3627.04	389.50	3289.50	102.4	50.8	0.4	-0.9	45.6	100	100
7	9	35	MOVE	1100	8300	953.17	3602.82	486.50	3286.50	91.6	51.0	0.5	-0.8	40.6	100	100
7	9	36	MOVE	1100	8300	1045.70	3578.03	582.50	3282.50	91.3	53.0	0.2	-0.5	38.4	100	100
7	9	37	MOVE	1100	8300	1139.76	3554.20	679.50	3279.50	28.2	13.1	0.4	-0.0	15.1	100	100
7	9	38	MOVE	1100	8300	1232.41	3528.79	775.50	3275.50	95.4	53.9	0.3	-0.4	41.5	100	100
7	9	39	MOVE	1100	8300	1326.39	3504.59	872.50	3272.50	94.5	50.7	0.4	-0.4	43.8	100	100
7	9	40	MOVE	1100	8300	1419.21	3480.08	968.50	3268.50	95.5	17.4	0.5	0.2	18.2	100	100
7	9	41	MOVE	1100	8300	1512.96	3455.47	1065.50	3265.50	93.8	50.8	0.3	-0.2	43.1	100	100
7	9	42	MOVE	1100	8300	1606.98	3431.21	1162.50	3262.50	93.6	51.7	0.4	-0.2	41.9	100	100
7	9	43	MOVE	1100	8300	1699.54	3405.36	1258.50	3259.50	93.9	51.9	0.3	0.0	42.0	100	100
7	9	44	MOVE	1100	8300	1792.73	3382.25	1355.50	3255.50	75.6	43.6	-0.4	0.2	32.0	100	100
7	9	45	MOVE	1100	8300	1886.11	3357.37	1451.50	3251.50	90.5	49.3	0.3	0.1	41.2	100	100
7	9	46	MOVE	1100	8300	1979.87	3333.34	1548.50	3248.50	92.5	52.3	0.3	0.0	40.2	100	100
7	9	48	MOVE	1100	8300	2166.78	3284.23	1741.50	3241.50	77.6	45.5	0.6	0.2	32.2	100	100
7	9	49	MOVE	1100	8300	2258.74	3259.18	1837.50	3237.50	82.6	48.6	-0.2	0.2	34.0	100	100
7	9	50	MOVE	1100	8300	2352.95	3234.88	1934.50	3234.50	64.8	38.1	0.1	0.3	26.7	100	100
7	9	51	MOVE	1100	8300	2447.12	3210.46	2031.50	3231.50	80.2	44.7	0.4	0.2	35.5	100	100
7	9	52	MOVE	1100	8300	2539.82	3184.91	2127.50	3227.50	77.0	45.5	0.3	-0.3	31.5	100	100
7	9	53	MOVE	1100	8300	2633.94	3160.78	2224.50	3224.50	96.3	62.8	0.5	-0.1	33.6	100	100

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
7	9	MOVE	1100	8300	2820.98	3113.50	2417.50	3217.50	80.3	43.6	0.9	2.0	36.7	100	100
7	9	MOVE	1100	8300	2913.63	3089.30	2513.50	3215.50	98.0	53.4	0.7	2.9	44.6	100	100
7	9	MOVE	1100	8300	3007.90	3065.35	2610.50	3210.50	36.2	17.5	1.0	3.2	18.7	100	100
7	9	MOVE	1100	8300	3100.84	3040.73	2706.50	3200.50	31.5	16.5	1.2	3.6	15.0	100	100
7	9	MOVE	1100	8300	2769.29	1950.74	2622.56	2070.22	94.4	50.6	-0.7	-3.5	43.8	100	100
7	9	MOVE	1100	8300	2635.31	1984.74	2484.59	2080.22	31.8	14.4	-1.0	-3.8	17.3	100	100
7	9	MOVE	1100	8300	2501.21	2020.29	2346.07	2080.20	108.6	56.9	-0.8	-4.1	51.7	100	100
7	9	MOVE	1100	8300	2367.49	2055.25	2208.05	2090.50	107.3	54.8	-1.0	-3.8	52.5	100	100
7	9	MOVE	1100	8300	2101.19	2125.69	1932.74	2099.12	100.3	55.3	-0.7	-2.5	45.0	100	100
7	9	MOVE	1100	8300	1967.10	2161.36	1793.81	2103.47	85.0	46.4	-0.3	-1.7	38.6	100	100
7	9	MOVE	1100	8300	1833.09	2195.75	1655.54	2108.43	37.8	18.0	-0.1	-0.7	19.8	100	100
7	9	MOVE	1100	8300	1700.74	2231.69	1518.40	2112.19	113.0	61.0	-0.0	-0.6	52.0	100	100
7	9	MOVE	1100	8300	1566.44	2266.18	1379.48	2115.68	98.4	48.1	0.4	-0.1	50.3	100	100
7	9	MOVE	1100	8300	1432.65	2301.20	1241.24	2120.69	79.6	42.5	0.3	-0.3	37.1	100	100
7	9	MOVE	1100	8300	1300.07	2335.72	1104.17	2129.23	107.6	56.5	0.2	-0.6	51.1	100	100
7	9	MOVE	1100	8300	1166.08	2369.70	965.96	2129.01	118.4	59.4	0.0	-1.0	59.1	100	100
7	9	MOVE	1100	8300	1032.44	2404.56	828.06	2134.31	120.4	59.4	-0.3	-1.2	61.0	100	100
7	9	MOVE	1100	8300	898.29	2438.21	689.67	2137.77	105.0	51.3	-0.3	-1.1	53.7	100	100
7	9	MOVE	1100	8300	765.91	2472.75	553.00	2142.65	106.3	55.7	-0.6	-1.3	50.6	100	100
7	9	MOVE	1100	8300	631.95	2506.48	415.25	2146.36	102.4	53.1	-0.8	-1.5	49.3	100	100
7	9	MOVE	1100	8300	497.85	2541.34	276.96	2151.31	84.3	45.5	-0.7	-1.9	38.8	100	100
7	9	MOVE	1100	8300	363.60	2574.88	138.98	2154.01	106.5	52.8	-0.7	-1.9	53.7	100	100
7	10	MOVE	1100	8300	3193.31	3013.56	2803.50	3203.50	115.1	54.8	-0.3	0.7	60.3	100	100
7	10	MOVE	1100	8300	3287.25	2991.30	2900.50	3200.50	65.8	17.3	-0.3	2.7	48.5	100	100
7	10	MOVE	1100	8300	3057.35	1978.69	2897.56	2183.44	109.9	46.0	0.2	0.1	63.9	100	100
7	10	MOVE	1100	8300	2924.11	2013.25	2759.80	2187.64	41.9	13.6	0.2	0.3	28.3	100	100
8	5	MOVE	3500	7300	39.91	739.16	100.50	200.50	65.8	137.2	2.0	7.5	-71.6	100	0
8	5	MOVE	3500	7300	82.43	930.64	100.50	396.50	80.8	122.7	0.8	3.4	-61.8	100	0
8	5	MOVE	3500	7300	103.83	1027.59	100.50	493.50	84.0	130.3	0.2	1.5	-66.3	100	0
8	5	MOVE	3500	7300	125.46	1124.40	100.50	593.50	83.9	129.3	0.0	0.5	-68.4	100	0
8	5	MOVE	3500	7300	147.33	1221.03	100.50	691.50	83.6	129.3	0.1	-0.8	-63.7	100	0
8	5	MOVE	3500	7300	168.77	1319.23	100.50	790.50	82.3	124.7	0.5	-1.7	-62.4	100	0
8	5	MOVE	3500	7300	192.64	1411.32	100.50	888.50	27.7	42.1	1.6	-7.6	-14.4	100	0
8	5	MOVE	3500	7300	211.82	1516.00	100.50	987.50	36.7	48.6	1.2	-2.0	-11.8	100	0
8	10	MOVE	3500	7300	233.58	1613.83	100.50	1083.50	33.8	48.9	1.3	-2.2	-15.1	100	0
8	11	MOVE	3500	7300	255.26	1712.57	100.50	1183.50	23.3	40.5	1.4	-1.6	-17.2	100	0
8	12	MOVE	3500	7300	277.55	1811.87	100.50	1282.50	22.7	40.5	1.1	-1.3	-17.8	100	0
8	13	MOVE	3500	7300	300.48	1910.09	100.50	1380.50	99.4	118.7	0.1	-1.2	-59.3	100	0
8	14	MOVE	3500	7300	321.65	2009.71	100.50	1479.50	24.3	44.4	0.8	-0.6	-20.1	100	0
8	56	MOVE	3500	7300	467.96	1850.60	220.35	1300.00	36.1	73.5	0.2	-1.0	-37.4	100	0
8	57	MOVE	3500	7300	562.14	1823.68	296.77	1398.48	22.8	40.6	0.9	0.1	-18.3	100	0
8	58	MOVE	3500	7300	654.56	1796.26	365.53	1393.49	23.5	37.6	1.0	1.0	-14.1	100	0
8	60	MOVE	3500	7300	843.70	1743.01	502.21	1347.24	81.9	118.5	0.1	0.5	-56.6	100	0
8	99	MOVE	3500	7300	638.98	895.85	496.37	487.57	80.3	131.8	4.0	3.2	-65.5	100	0
8	106	MOVE	3500	7300	171.20	703.00	197.50	195.50	98.6	104.2	1.7	7.4	-45.6	100	0
8	19	MOVE	3500	7300	460.24	523.11	422.35	84.00	89.5	0.0	6.0	9.0	69.5	100	0
8	21	MOVE	3500	7300	512.86	722.69	432.18	292.21	88.3	128.3	0.8	3.5	-59.8	100	0
8	24	MOVE	3500	7300	581.74	1017.35	434.41	594.15	66.1	107.2	-0.0	-0.3	-41.1	100	0

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
6	25	MOVE	3500	7300	604.15	1115.22	434.52	894.44	97.9	111.9	0.4	-0.6	-44.0	100	0
6	26	MOVE	3500	7300	626.57	1210.16	436.58	769.27	71.7	118.2	0.6	1.1	-46.5	100	0
6	27	MOVE	3500	7300	649.20	1306.41	436.51	865.34	62.3	108.9	0.9	2.5	-46.6	100	0
6	29	MOVE	3500	7300	693.47	1496.33	437.80	1074.97	46.1	39.3	1.8	5.8	-13.2	100	0
6	30	MOVE	3500	7300	715.89	1591.44	438.78	1165.94	71.2	109.6	2.3	8.3	-38.4	100	0
6	34	MOVE	3500	7300	1017.30	1700.18	631.93	1331.84	23.4	33.6	2.8	13.3	-10.1	100	0
6	35	MOVE	3500	7300	1144.95	1661.14	726.58	1323.41	24.7	32.4	3.1	13.5	-9.7	100	0
6	38	MOVE	3500	7300	1531.98	1542.46	1014.52	1250.59	25.9	34.0	2.1	12.8	-10.1	100	0
6	39	MOVE	3500	7300	1661.25	1503.27	1110.40	1290.93	27.5	39.5	2.0	12.3	-12.0	100	0
6	40	MOVE	3500	7300	1790.25	1462.83	1206.31	1281.76	29.2	42.9	1.9	11.9	-13.6	100	0
6	41	MOVE	3500	7300	1918.13	1423.61	1301.26	1275.50	29.6	57.9	1.8	11.7	-18.4	100	0
6	42	MOVE	3500	7300	2046.76	1383.15	1396.60	1264.80	25.7	37.0	2.0	11.4	-11.3	100	0
6	44	MOVE	3500	7300	2303.42	1302.98	1587.16	1240.79	28.7	43.6	2.0	11.4	-14.8	100	0
6	45	MOVE	3500	7300	2432.45	1263.55	1682.68	1238.85	32.9	48.3	2.1	11.1	-15.4	100	0
6	80	MOVE	3500	7300	3060.77	414.96	2250.50	963.50	70.8	128.3	-0.6	-4.3	-57.5	100	0
6	81	MOVE	3500	7300	3037.33	317.34	2250.50	867.50	98.0	118.2	-2.6	-6.3	-50.2	100	0
6	82	MOVE	3500	7300	3017.99	225.04	2250.50	770.50	22.4	35.1	-0.3	-2.0	-13.3	100	0
6	83	MOVE	3500	7300	2996.88	129.43	2250.50	674.50	30.7	47.5	0.2	-0.8	-16.9	100	0
6	84	MOVE	3500	7300	2975.68	34.72	2250.50	578.50	33.2	52.5	0.6	1.3	-19.4	100	0
6	85	MOVE	3500	7300	2954.95	-58.43	2250.50	482.50	25.4	57.2	1.3	3.9	-21.9	100	0
6	87	MOVE	3500	7300	2688.65	14.30	2054.50	469.50	42.5	64.6	1.0	4.3	-22.1	100	0
6	88	MOVE	3500	7300	2555.67	49.61	1956.50	413.50	34.0	45.5	1.2	3.9	-11.6	100	0
6	89	MOVE	3500	7300	2424.15	86.41	1859.50	358.50	33.9	51.4	1.3	4.3	-17.5	100	0
6	91	MOVE	3500	7300	2158.24	158.99	1663.50	227.50	31.4	49.9	1.1	3.6	-18.5	100	0
6	92	MOVE	3500	7300	2025.02	195.51	1565.50	151.50	32.0	48.0	0.8	3.7	-16.0	100	0
6	93	MOVE	3500	7300	1893.69	232.56	1468.50	136.50	24.6	36.5	0.7	3.7	-11.9	100	0
6	94	MOVE	3500	7300	1761.34	267.03	1370.50	140.50	65.3	116.1	1.3	1.8	-50.8	100	0
6	96	MOVE	3500	7300	1496.12	342.91	1175.50	150.50	87.4	116.8	0.0	3.2	-49.4	100	0
6	97	MOVE	3500	7300	1349.84	373.20	1077.50	134.50	65.7	115.1	-13.4	-2.9	-49.4	100	0
6	98	MOVE	3500	7300	1230.58	415.62	979.50	159.50	80.9	111.3	0.1	2.4	-50.4	100	0
6	99	MOVE	3500	7300	1097.67	451.74	881.50	103.50	24.1	36.0	0.2	3.4	-11.8	100	0
6	100	MOVE	3500	7300	964.41	488.21	784.50	108.50	68.2	42.3	0.4	4.3	-14.1	100	0
6	101	MOVE	3500	7300	833.30	523.13	686.50	172.50	79.4	134.1	0.4	4.4	-54.7	100	0
6	103	MOVE	3500	7300	560.87	598.58	490.50	181.50	71.7	132.2	-0.1	9.2	-60.5	100	0
6	104	MOVE	3500	7300	425.80	639.15	393.50	186.50	0.0	33.9	-9.7	14.3	-33.9	100	0
6	302	MOVE	3500	7300	2740.09	1143.62	1915.00	1195.00	0.0	0.0	1.2	9.1	0.0	100	0
6	303	MOVE	3500	7300	2823.63	1108.96	1978.00	1161.00	0.0	0.0	1.5	7.3	0.0	100	0
6	304	MOVE	3500	7300	3074.61	1091.10	2155.00	1219.00	0.0	0.0	1.8	8.1	0.0	100	0
6	305	MOVE	3500	7300	3097.79	1041.37	2179.00	1176.00	0.0	0.0	1.3	7.0	0.0	100	0
6	306	MOVE	3500	7300	2782.96	1038.53	1961.00	1107.00	0.0	0.0	0.6	4.9	0.0	100	0
6	307	MOVE	3500	7300	2742.15	984.46	1940.00	1053.00	0.0	0.0	0.6	2.9	0.0	100	0
6	308	MOVE	3500	7300	3147.55	922.23	2232.00	1079.00	0.0	0.0	0.7	3.6	0.0	100	0
6	309	MOVE	3500	7300	3060.95	843.17	2184.00	967.00	0.0	0.0	0.3	0.6	0.0	100	0
6	310	MOVE	3500	7300	2710.68	886.87	1934.00	950.00	0.0	0.0	0.3	0.7	0.0	100	0
6	311	MOVE	3500	7300	3041.05	778.46	2180.00	923.00	0.0	0.0	0.2	-1.7	0.0	100	0
6	312	MOVE	3500	7300	3154.36	760.33	2262.00	930.00	0.0	0.0	-0.2	-0.3	0.0	100	0
6	313	MOVE	3500	7300	2684.45	750.56	1937.00	817.00	0.0	0.0	-0.3	-2.4	0.0	100	0
6	314	MOVE	3500	7300	2881.73	705.92	2081.00	819.00	0.0	0.0	-0.5	-2.7	0.0	100	0

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTER LINE	FRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
8	6	315	MOVE	3500	7300	3060.16	588.45	2223.00	748.00	0.0	0.0	-0.4	-3.5	0.0	100	0
8	6	316	MOVE	3500	7300	2962.22	585.60	2156.00	724.00	0.0	0.0	-1.3	-4.1	0.0	100	0
8	6	317	MOVE	3500	7300	3022.67	575.82	2199.00	726.00	0.0	0.0	-0.6	-4.0	0.0	100	0
8	7	15	MOVE	3500	7300	344.98	2108.21	100.50	1217.00	28.4	121.7	0.8	-0.2	-63.3	100	0
8	7	17	MOVE	3500	7300	388.85	2306.31	100.50	1774.50	18.1	41.9	0.8	0.8	-23.8	100	0
8	7	18	MOVE	3500	7300	410.71	2404.69	100.50	1872.50	25.8	121.9	0.9	1.1	-66.0	100	0
8	7	19	MOVE	3500	7300	432.57	2503.22	100.50	1970.50	42.9	97.1	1.0	1.6	-54.2	100	0
8	7	20	MOVE	3500	7300	454.48	2602.42	100.50	2069.50	37.4	80.1	0.9	1.8	-42.7	100	0
8	7	21	MOVE	3500	7300	476.77	2697.98	100.50	2167.50	50.0	117.2	1.4	-0.7	-67.2	100	0
8	7	22	MOVE	3500	7300	498.22	2799.99	100.50	2266.50	17.2	38.0	0.8	2.2	-20.9	100	0
8	7	24	MOVE	3500	7300	541.84	2995.11	100.50	2462.50	34.8	118.1	0.9	1.2	-63.2	100	0
8	7	25	MOVE	3500	7300	563.39	3093.55	100.50	2561.50	21.3	111.1	0.4	0.7	-59.6	100	0
8	7	26	MOVE	3500	7300	584.78	3190.60	100.50	2659.50	40.0	87.7	0.2	0.4	-47.7	100	0
8	7	27	MOVE	3500	7300	606.07	3288.55	100.50	2758.50	14.9	33.3	0.2	0.4	-18.4	100	0
8	7	28	MOVE	3500	7300	626.96	3380.83	100.50	2856.50	47.3	108.0	0.3	1.0	-60.7	100	0
8	7	29	MOVE	3500	7300	647.86	3474.51	100.50	2954.50	48.2	108.8	0.5	1.1	-60.7	100	0
8	7	30	MOVE	3500	7300	668.77	3569.06	100.50	3053.50	13.1	30.5	0.4	1.0	-17.3	100	0
8	7	31	MOVE	3500	7300	689.40	3662.38	100.50	3151.50	38.0	122.5	0.2	0.4	-64.5	100	0
8	7	32	MOVE	3500	7300	710.62	3757.98	100.50	3250.50	10.0	38.0	-0.6	-2.9	-21.9	100	0
8	7	62	MOVE	3500	7300	849.24	3802.76	192.30	3225.42	17.8	37.2	-1.2	-3.2	-19.4	100	0
8	7	64	MOVE	3500	7300	802.42	3613.29	187.13	3126.57	16.8	39.2	0.1	0.3	-22.5	100	0
8	7	65	MOVE	3500	7300	781.20	3515.24	186.81	3027.52	55.7	116.4	0.3	0.8	-60.7	100	0
8	7	66	MOVE	3500	7300	760.01	3421.62	186.74	2928.41	15.1	34.9	0.2	0.9	-19.8	100	0
8	7	67	MOVE	3500	7300	738.80	3327.32	186.55	2829.42	47.3	107.6	0.1	0.7	-60.3	100	0
8	7	68	MOVE	3500	7300	717.63	3234.42	186.29	2732.50	43.2	95.3	0.0	0.5	-52.1	100	0
8	7	69	MOVE	3500	7300	696.50	3139.38	186.16	2633.60	32.8	118.0	0.1	0.5	-65.2	100	0
8	7	70	MOVE	3500	7300	674.91	3044.80	185.55	2534.10	18.9	41.3	0.4	0.5	-22.4	100	0
8	7	71	MOVE	3500	7300	653.59	2949.29	185.58	2435.34	44.3	92.3	0.5	1.4	-48.0	100	0
8	7	72	MOVE	3500	7300	632.11	2854.52	185.16	2336.46	56.0	118.4	0.7	1.5	-62.4	100	0
8	7	73	MOVE	3500	7300	610.93	2759.66	185.18	2237.39	58.7	121.5	0.7	1.8	-64.8	100	0
8	7	74	MOVE	3500	7300	589.94	2663.93	185.10	2139.56	51.8	112.6	0.6	1.9	-60.8	100	0
8	7	75	MOVE	3500	7300	564.44	2571.61	184.50	2040.42	41.3	92.0	0.9	1.6	-50.7	100	0
8	7	76	MOVE	3500	7300	547.02	2478.93	183.51	1941.44	47.4	107.8	1.0	-0.4	-60.4	100	0
8	7	77	MOVE	3500	7300	525.97	2383.05	184.02	1877.24	47.7	109.4	0.8	0.9	-61.7	100	0
8	7	78	MOVE	3500	7300	504.85	2289.77	183.63	1784.59	13.5	31.9	0.9	0.5	-18.4	100	0
8	7	79	MOVE	3500	7300	483.16	2195.80	182.95	1691.03	56.6	121.8	1.3	-0.1	-65.2	100	0
8	7	80	MOVE	3500	7300	462.79	2101.49	183.03	1597.41	51.0	110.1	0.4	-0.4	-59.1	100	0
8	7	81	MOVE	3500	7300	441.10	2007.66	182.62	1504.14	50.8	117.8	0.9	-1.2	-61.0	100	0
8	7	82	MOVE	3500	7300	420.08	1913.36	182.67	1410.28	51.3	121.2	0.6	-1.5	-69.9	100	0
8	7	83	MOVE	3500	7300	399.38	1820.08	182.88	1317.55	17.7	40.3	0.3	-1.9	-22.5	100	0
8	7	84	MOVE	3500	7300	377.95	1725.94	182.32	1223.95	51.1	112.4	0.5	-2.4	-61.3	100	0
8	8	1	FIX	3500	7300	567.63	3211.94	85.34	2073.71	29.6*******		0.0	0.0**********			
8	8	2	FIX	3500	7300	1905.58	1490.33	1281.64	1345.33	33.3*******		0.0	0.0**********		0	0
8	8	3	FIX	3500	7300	1849.89	853.03	1541.62	728.75	34.6*******		0.0	0.0**********		0	0
8	8	4	FIX	3500	7300	1734.20	2697.33	975.82	2447.60	28.4*******		0.0	0.0**********		0	0
8	8	5	FIX	3500	7300	1171.81	3194.27	508.04	2830.21	33.6*******		0.0	0.0**********		0	0
8	8	6	FIX	3500	7300	213.64	1137.00	159.71	825.83	27.2*******		0.0	0.0**********		0	0
8	8	7	FIX	3500	7300	1250.40	549.86	972.15	293.75	34.9*******		0.0	0.0**********		0	0

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
8	8	FIX	3500	7300	3358.30	2272.37	2168.22	2412.07	37.2*******		0.0	0.0*********		0	0
8	9	FIX	3500	7300	3024.14	1421.11	2068.46	1550.48	26.4*******		0.0	0.0*********		0	0
8	11	FIX	3500	7300	2708.91	1176.45	1887.60	1229.47	21.8*******		0.0	0.0*********		0	0
8	13	FIX	3500	7300	2399.77	362.75	1799.97	380.49	33.8*******		0.0	0.0*********		0	0
8	14	FIX	3500	7300	1398.87	1783.89	884.21	1510.02	36.0*******		0.0	0.0*********		0	0
8	15	FIX	3500	7300	524.48	1778.17	276.99	1507.86	35.8*******		0.0	0.0*********		0	0
8	16	FIX	3500	7300	694.33	2354.34	306.02	1887.90	25.3*******		0.0	0.0*********		0	0
8	17	FIX	3500	7300	936.87	3607.26	281.02	3133.27	33.2*******		0.0	0.0*********		0	0
8	20	FIX	3500	7300	922.52	1338.55	622.00	987.96	37.1*******		0.0	0.0*********		0	0
8	21	FIX	3500	7300	1241.37	2551.14	656.00	2190.84	33.5*******		0.0	0.0*********		0	0
8	22	FIX	3500	7300	2911.88	2333.74	1849.01	2308.79	39.0*******		0.0	0.0*********		0	0
8	23	FIX	3500	7300	2357.42	1988.18	1518.00	1914.72	38.4*******		0.0	0.0*********		0	0
8	24	FIX	3500	7300	2394.05	1120.75	1678.01	1106.74	34.3*******		0.0	0.0*********		0	0
8	25	FIX	3500	7300	1553.15	1734.59	999.00	1490.80	30.6*******		0.0	0.0*********		0	0
10	34	MOVE	3500	7300	974.11	3682.14	295.50	3230.50	50.5	38.0	-0.7	-1.8	12.5	100	100
10	35	MOVE	3500	7300	1106.48	3643.05	393.50	3229.50	53.3	38.5	-1.1	-2.9	14.8	100	100
10	36	MOVE	3500	7300	1237.60	3604.83	490.50	3222.50	49.0	37.3	-1.4	-3.7	11.7	100	100
10	37	MOVE	3500	7300	1370.11	3566.74	588.50	3215.50	46.3	35.9	-1.6	-3.9	10.4	100	100
10	38	MOVE	3500	7300	1502.92	3529.33	686.50	3209.50	52.3	42.2	-1.8	-4.5	10.1	100	100
10	39	MOVE	3500	7300	1635.69	3490.75	784.50	3202.50	39.7	32.2	-1.8	-5.3	7.5	100	100
10	41	MOVE	3500	7300	1899.72	3414.87	979.50	3188.50	48.5	42.0	-1.9	-5.8	6.3	100	100
10	42	MOVE	3500	7300	2032.35	3377.43	1077.50	3181.50	52.1	44.0	-2.1	-5.5	8.1	100	100
10	43	MOVE	3500	7300	2164.97	3340.21	1175.50	3175.50	39.9	32.2	-2.4	-5.9	7.7	100	100
10	44	MOVE	3500	7300	2296.77	3301.71	1272.50	3168.50	41.9	34.1	-2.6	-6.9	7.8	100	100
10	45	MOVE	3500	7300	2429.33	3262.85	1370.50	3161.50	49.1	41.8	-2.2	-7.9	7.3	100	100
10	46	MOVE	3500	7300	2562.08	3224.92	1468.50	3154.50	47.6	44.2	-2.3	-8.1	3.3	100	100
10	47	MOVE	3500	300	2693.52	3187.18	1565.50	3147.50	40.7	35.2	-2.2	-8.3	5.5	100	100
10	48	MOVE	3500	7300	2826.39	3148.91	1663.50	3140.50	53.1	48.2	-2.1	-8.8	4.9	100	100
10	89	MOVE	3500	7300	2644.61	2447.02	1647.11	2427.14	63.9	45.4	-3.6	-9.6	18.5	100	100
10	93	MOVE	3500	7300	2114.27	2589.25	1256.61	2459.20	42.8	35.4	-2.2	-7.2	7.3	100	100
10	94	MOVE	3500	7300	1981.44	2624.34	1159.04	2441.77	124.4	111.9	-2.1	-6.5	12.5	100	100
10	95	MOVE	3500	7300	1848.76	2660.18	1061.45	2444.72	50.7	38.3	-1.9	-5.6	12.4	100	100
10	97	MOVE	3500	7300	1584.40	2731.31	866.65	2451.48	132.3	115.7	-1.3	-4.5	16.6	100	100
10	99	MOVE	3500	7300	1318.64	2801.21	671.12	2456.66	53.0	40.8	-0.6	-1.8	12.2	100	100
10	100	MOVE	3500	7300	1187.33	2836.51	574.41	2459.72	59.8	44.1	-0.4	-0.7	15.7	100	100
10	101	MOVE	3500	7300	1054.41	2871.96	476.42	2462.23	135.9	120.2	-0.2	-0.4	15.7	100	100
10	102	MOVE	3500	7300	921.64	2907.95	378.49	2465.70	140.6	124.0	0.0	0.1	16.6	100	100
10	103	MOVE	3500	7300	788.42	2942.41	280.43	2467.61	51.3	39.2	0.3	0.7	12.2	100	100
10	301	MOVE	3500	7300	1965.23	2727.11	1152.00	2533.00	0.0	0.0	-1.6	-3.2	0.0	100	100
10	302	MOVE	3500	7300	1970.95	2673.99	1144.00	2486.00	0.0	0.0	-1.7	-5.1	0.0	100	100
10	303	MOVE	3500	7300	2301.99	2591.31	1387.00	2484.00	0.0	0.0	-2.7	-6.1	0.0	100	100
10	304	MOVE	3500	7300	2460.34	2529.99	1506.00	2483.00	0.0	0.0	-2.7	-8.0	0.0	100	100
10	305	MOVE	3500	7300	2677.16	2473.54	1666.00	2480.00	0.0	0.0	-4.1	-9.1	0.0	100	100
10	306	MOVE	3500	7300	2888.73	2402.63	1824.00	2474.00	0.0	0.0	-4.8	-10.5	0.0	100	100
10	307	MOVE	3500	7300	3069.21	2384.08	1952.00	2467.00	0.0	0.0	-5.0	-11.5	0.0	100	100
10	308	MOVE	3500	7300	3109.42	2487.52	1964.00	2573.00	0.0	0.0	-4.7	-9.2	0.0	100	100
10	309	MOVE	3500	7300	3177.10	2568.70	1998.00	2662.00	0.0	0.0	-4.0	-9.1	0.0	100	100
8	10	MOVE	3500	7300	3272.60	2629.74	2055.00	2745.00	0.0	0.0	-4.5	-10.0	0.0	100	0

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
8	10	311	MOVE	3500	7300	3172.72	2755.43	1966.00	2842.00	0.0	0.0	-4.0	-9.1	0.0	100	0
8	10	312	MOVE	3500	7300	3253.31	2686.91	2033.00	2795.00	0.0	0.0	-4.8	-9.6	0.0	100	0
8	10	313	MOVE	3500	7300	3113.62	2800.00	1949.00	2880.00	0.0	0.0	-3.7	-8.2	0.0	100	0
8	10	314	MOVE	3500	7300	3203.30	2717.64	1993.00	2815.00	0.0	0.0	-3.9	-9.5	0.0	100	0
8	10	315	MOVE	3500	7300	3285.90	2792.79	2004.00	2892.00	0.0	0.0	-4.0	-9.7	0.0	100	0
8	10	316	MOVE	3500	7300	3226.32	2885.14	1983.00	2979.00	0.0	0.0	-4.2	-10.8	0.0	100	0
8	10	317	MOVE	3500	7300	3183.55	2935.85	1945.00	3018.00	0.0	0.0	-3.5	-11.0	0.0	100	0
8	10	318	MOVE	3500	7300	3060.64	2948.86	1857.00	3001.00	0.0	0.0	-2.0	-8.7	0.0	100	0
8	10	319	MOVE	3500	7300	3128.02	3056.38	1888.00	3122.00	0.0	0.0	-4.1	-12.2	0.0	100	0
8	10	320	MOVE	3500	7300	3330.59	3026.79	2034.00	3142.00	0.0	0.0	-6.1	-15.8	0.0	100	0
8	10	321	MOVE	3500	7300	3060.91	3184.51	1820.00	3230.00	0.0	0.0	-3.4	-14.3	0.0	100	0
8	10	322	MOVE	3500	7300	3014.50	3109.72	1800.00	3147.00	0.0	0.0	-1.8	-11.5	0.0	100	0
8	10	323	MOVE	3500	7300	2900.38	3145.83	1715.00	3199.00	0.0	0.0	-1.9	-10.1	0.0	100	0
8	10	324	MOVE	3500	7300	2780.10	3175.13	1627.00	3250.00	0.0	0.0	-1.8	-9.5	0.0	100	0
9	7	19	MOVE	1000	10200	422.82	667.99	463.23	1005.58	56.5	109.5	-0.6	2.5	-52.9	100	100
9	7	20	MOVE	1000	10200	444.26	704.27	484.45	1042.53	56.7	110.9	-0.7	0.9	-50.2	100	100
9	7	21	MOVE	1000	10200	466.26	859.99	468.62	1005.58	56.4	110.6	-0.3	-0.1	-54.1	100	100
9	7	22	MOVE	1000	10200	487.52	955.86	468.39	1002.72	58.0	103.8	-0.4	-0.3	-45.8	100	100
9	7	23	MOVE	1000	10200	509.00	1049.41	470.07	1002.26	55.9	104.2	-0.3	-1.3	-48.3	100	100
9	7	24	MOVE	1000	10200	531.22	1145.00	472.87	1001.26	52.5	98.9	-0.7	-2.4	-46.5	100	100
9	7	25	MOVE	1000	10200	552.29	1238.32	474.68	1000.43	52.3	95.8	-0.7	-5.2	-43.5	100	100
9	7	26	MOVE	1000	10200	573.11	1332.79	475.79	852.78	52.9	99.0	-0.3	-2.1	-46.1	100	100
9	7	27	MOVE	1000	10200	595.25	1427.36	478.77	949.34	51.7	95.3	-0.3	-1.8	-43.6	100	100
9	7	28	MOVE	1000	10200	615.97	1520.34	480.07	1044.43	51.9	108.3	-0.8	-1.6	-50.5	100	100
9	7	29	MOVE	1000	10200	637.46	1614.50	482.18	1140.37	50.7	103.5	-1.0	-1.2	-52.8	100	100
9	7	30	MOVE	1000	10200	658.40	1708.14	483.75	1235.45	48.9	87.0	-0.8	-0.3	-38.1	100	100
9	7	31	MOVE	1000	10200	679.85	1802.02	485.83	1330.31	50.6	105.6	-0.5	0.3	-49.0	100	100
9	7	32	MOVE	1000	10200	774.28	1776.85	553.47	1329.72	52.0	98.5	-0.5	0.5	-46.4	100	100
9	7	33	MOVE	1000	10200	867.13	1751.61	623.76	1321.12	56.8	104.3	-0.4	1.4	-47.5	100	100
9	7	34	MOVE	1000	10200	959.06	1727.04	696.45	1317.33	58.8	102.4	-0.4	0.9	-45.6	100	100
9	7	35	MOVE	1000	10200	1053.17	1702.82	769.25	1314.60	51.0	91.6	-0.5	0.8	-40.6	100	100
9	7	36	MOVE	1000	10200	1145.70	1678.03	826.76	1310.87	53.0	91.3	-0.2	0.5	-38.4	100	100
9	7	37	MOVE	1000	10200	1239.76	1654.20	895.47	1308.64	53.1	28.2	-0.4	0.0	-15.1	100	100
9	7	38	MOVE	1000	10200	1332.41	1628.79	963.38	1305.72	53.9	95.4	-0.3	0.4	-41.5	100	100
9	7	39	MOVE	1000	10200	1426.39	1604.59	1032.09	1300.70	50.7	94.5	-0.4	0.4	-43.8	100	100
9	7	40	MOVE	1000	10200	1519.21	1580.08	1099.99	1297.59	17.4	35.5	-0.5	-0.2	-18.2	100	100
9	7	41	MOVE	1000	10200	1612.96	1555.47	1168.49	1295.00	50.8	93.8	-0.3	0.2	-43.1	100	100
9	7	42	MOVE	1000	10200	1706.98	1531.21	1237.27	1290.56	51.7	93.6	-0.4	0.2	-41.9	100	100
9	7	43	MOVE	1000	10200	1799.54	1506.36	1304.91	1288.07	51.9	93.9	-0.3	-0.0	-42.0	100	100
9	7	44	MOVE	1000	10200	1892.73	1482.25	1372.48	1285.51	43.6	75.6	-0.4	-0.2	-32.0	100	100
9	7	45	MOVE	1000	10200	1986.11	1457.37	1441.37	1279.09	49.3	90.5	-0.3	-0.1	-41.2	100	100
9	7	46	MOVE	1000	10200	2079.87	1433.34	1509.85	1276.03	52.3	92.5	-0.3	-0.2	-40.2	100	100
9	7	48	MOVE	1000	10200	2266.78	1384.23	1646.74	1269.77	45.5	77.6	-0.6	-0.2	-32.2	100	100
9	7	49	MOVE	1000	10200	2358.74	1359.18	1713.53	1265.44	48.6	82.6	-0.2	-0.2	-34.0	100	100
9	7	50	MOVE	1000	10200	2452.95	1334.88	1782.51	1262.81	38.1	64.8	-0.1	-0.3	-26.7	100	100
9	7	51	MOVE	1000	10200	2547.12	1310.46	1851.48	1259.33	44.7	80.2	-0.4	-0.2	-35.5	100	100
9	7	52	MOVE	1000	10200	2639.82	1284.91	1919.43	1254.04	45.5	77.0	-0.3	0.3	-31.5	100	100
9	7	53	MOVE	1000	10200	2733.94	1260.78	1988.29	1251.76	62.8	96.3	-0.5	0.1	-33.6	100	100

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
7	35	MJVC	100010200	2920.98	1213.50	2125.00	1490.54	93.6	80.3	-0.5	-2.0	-36.7	100	100
7	36	MJVC	100010200	3013.63	1189.30	2192.03	1241.50	93.4	98.0	-0.7	-2.9	-44.6	100	100
7	37	MJVC	100010200	3107.90	1162.35	2261.67	1238.03	87.5	36.2	-1.0	-3.2	-18.7	100	100
7	38	MJVC	100010200	3200.84	1140.73	2329.76	1492.30	86.5	31.5	-1.2	-3.6	-15.0	100	100
7	85	MJVC	100010200	2869.29	50.74	2250.50	100.50	90.6	94.4	0.7	3.5	-43.8	100	100
7	86	MJVC	100010200	2735.31	84.74	2152.50	104.50	14.4	31.8	1.0	3.8	-17.3	100	100
7	87	MJVC	100010200	2601.21	120.29	2054.50	109.50	90.9	108.6	0.8	4.1	-51.7	100	100
7	88	MJVC	100010200	2467.49	155.25	1956.50	113.50	94.8	107.3	1.0	3.8	-52.5	100	100
7	90	MJVC	100010200	2201.19	225.69	1761.50	142.50	95.3	100.3	0.7	2.5	-45.0	100	100
7	91	MJVC	100010200	2067.10	261.36	1663.50	127.50	90.4	85.0	0.3	1.7	-38.6	100	100
7	92	MJVC	100010200	1933.09	295.75	1565.50	131.50	18.0	37.8	0.1	0.7	-19.8	100	100
7	93	MJVC	100010200	1800.74	331.69	1468.50	130.50	91.0	113.0	-0.0	0.6	-52.0	100	100
7	94	MJVC	100010200	1666.44	366.18	1370.50	140.50	98.1	98.4	-0.4	0.1	-50.3	100	100
7	95	MJVC	100010200	1532.65	401.20	1272.50	142.50	92.5	79.6	-0.2	0.3	-37.1	100	100
7	96	MJVC	100010200	1400.07	435.72	1175.50	150.50	96.5	107.6	-0.2	0.6	-51.1	100	100
7	97	MJVC	100010200	1266.08	469.70	1077.50	154.50	99.4	118.4	0.0	1.2	-59.1	100	100
7	98	MJVC	100010200	1132.44	504.56	979.50	159.50	97.4	120.4	0.3	1.2	-61.0	100	100
7	99	MJVC	100010200	998.29	538.21	881.50	163.50	91.3	105.0	0.3	1.1	-53.7	100	100
7	100	MJVC	100010200	865.91	572.75	784.50	168.50	95.7	100.3	0.8	1.3	-50.6	100	100
7	101	MJVC	100010200	731.95	606.48	686.50	172.50	93.1	102.4	0.7	1.5	-49.3	100	100
7	102	MJVC	100010200	597.85	641.34	588.50	177.50	95.5	84.3	0.7	1.9	-38.8	100	100
7	103	MJVC	100010200	463.00	674.88	490.50	181.50	92.8	106.5	0.7	1.9	-53.7	100	100
7	2	FIA	100010200	1897.13	2484.52	1236.40	2490.00	20.6*******				0.0**********	100	100
7	3	FIA	100010200	2404.70	2867.50	1535.82	2735.90	22.0*******				0.0**********	100	100
7	4	FIA	100010200	617.95	934.19	562.22	472.52	28.7*******				0.0**********	100	100
7	5	FIA	100010200	903.74	972.27	755.74	574.09	30.0*******				0.0**********	100	100
7	6	FIA	100010200	1855.53	983.08	1415.63	794.90	17.7*******				0.0**********	100	100
7	7	FIA	100010200	1662.21	339.38	1371.42	109.07	19.5*******				0.0**********	100	100
7	8	FIA	100010200	2684.64	373.04	2077.42	377.80	20.2*******				0.0**********	100	100
7	9	FIA	100010200	2700.55	1174.62	1980.24	1167.47	23.7*******				0.0**********	100	100
7	10	FIX	100010200	334.73	1965.23	222.16	1913.20	28.2*******				0.0**********	100	100
7	11	FIA	100010200	3283.45	2776.12	2158.95	2841.50	19.6*******				0.0**********	100	100
7	12	FIX	100010200	3090.03	2013.54	2130.64	2091.00	24.5*******				0.0**********	100	100
7	13	FIA	100010200	2545.96	2033.79	1750.23	1921.38	25.7*******				0.0**********	100	100
7	14	FIA	100010200	159.23	920.88	244.81	997.80	31.9*******				0.0**********	100	100
7	17	FIX	100010200	1473.91	3340.55	823.83	3004.40	29.8*******				0.0**********	100	100
7	18	FIX	100010200	2114.84	3141.51	1290.01	2993.99	27.5*******				0.0**********	100	100
7	19	FIA	100010200	3118.49	1644.53	2202.08	1701.79	29.6*******				0.0**********	100	100
7	20	FIX	100010200	2310.50	363.02	1618.50	289.17	27.1*******				0.0**********	100	100
7	21	FIA	100010200	1000.23	1593.61	741.76	1197.79	22.9*******				0.0**********	100	100
7	22	FIA	100010200	932.19	2200.37	605.87	1705.47	24.2*******				0.0**********	100	100
7	23	FIA	100010200	973.09	2629.84	573.08	2221.30	26.0*******				0.0**********	100	100
7	24	FIA	100010200	2650.40	2370.57	1775.00	2299.71	28.2*******				0.0**********	100	100
7	25	FIA	100010200	2211.00	1142.37	1641.12	1402.76	25.6*******				0.0**********	100	100
10	1	MJVC	100010200	2759.06	182.04	2155.48	202.78	137.0	105.4	-0.7	2.2	31.6	100	100
10	2	MJVC	100010200	2779.12	278.71	2136.31	304.51	135.8	104.3	-0.2	1.9	31.5	100	100
10	3	MJVC	100010200	2798.50	375.56	2156.16	403.43	95.7	35.0	0.3	1.1	10.7	100	100
10	4	MJVC	100010200	2818.35	473.00	2176.48	502.32	130.8	97.2	0.1	0.7	33.6	100	100

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LANDSAT DIGITAL MOSAIC TiePOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME		TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
9	10	5	MJVE	1000102 00	2838.05	570.39	2156.59	0002.39	1?0.1	169.1	-0.1	-0.6	31.0	100	100
9	10	6	MJVE	1000102 00	2857.42	0?6.55	2156.59	000?.??	42.6	30.9	-0.0	-0.7	11.7	100	100
9	10	7	MJVE	1000102 00	2876.52	70?.83	2155.63	000?.??	121.7	89.5	0.5	-2.0	32.3	100	100
9	10	8	MJVE	1000102 00	2897.23	861.27	2157.41	0?0.0?	102.5	80.4	-0.7	-2.5	22.1	100	100
9	10	9	MJVE	1000102 00	2917.11	959.57	2157.57	??8.?0	121.8	88.2	-0.8	-2.7	35.6	100	100
9	10	10	MJVE	1000102 00	2936.51	1058.01	2157.01	1007.??	139.6	105.5	-0.3	-2.6	34.1	100	100
9	10	11	MJVE	1000102 00	2956.72	1150.57	2157.53	1197.37	127.7	95.1	-0.5	-2.2	32.6	100	100
9	10	12	MJVE	1000102 00	2976.86	1250.02	2157.68	1297.??	39.5	29.4	-0.4	-1.6	10.1	100	100
9	10	13	MJVE	1000102 00	2996.58	1350.31	2157.58	1398.?3	129.4	96.7	-0.0	-0.9	22.7	100	100
9	10	14	MJVE	1000102 00	3017.04	1452.19	2158.06	1497.?0	130.7	97.7	-0.2	-0.8	32.9	100	100
9	10	15	MJVE	1000102 00	3037.21	1552.82	2158.46	1598.37	45.5	34.1	-0.3	-0.4	11.4	100	100
9	10	16	MJVE	1000102 00	3057.15	1651.73	2158.51	1698.33	107.8	81.3	-0.3	-0.8	26.5	100	100
9	10	17	MJVE	1000102 00	3077.26	1751.32	2158.62	1798.36	47.7	37.3	-0.3	-1.1	10.4	100	100
9	10	18	MJVE	1000102 00	3097.30	1849.55	2158.95	1898.?3	48.8	39.4	-0.4	-1.0	9.4	100	100
9	10	19	MJVE	1000102 00	3117.34	1947.51	2158.94	1998.98	90.9	70.1	-0.2	-0.7	26.8	100	100
9	10	20	MJVE	1000102 00	3137.41	2046.54	2159.51	2098.48	107.9	87.0	-0.5	-0.4	20.9	100	100
9	10	21	MJVE	1000102 00	3157.19	2144.50	2159.54	2198.31	92.8	73.6	-0.4	-0.1	19.1	100	100
9	10	22	MJVE	1000102 00	3177.18	2243.56	2159.57	2297.39	40.5	32.0	-0.3	0.1	8.5	100	100
9	10	23	MJVE	1000102 00	3197.15	2341.62	2159.86	2397.41	95.1	75.3	-0.3	0.3	17.8	100	100
9	10	24	MJVE	1000102 00	3217.09	2439.50	2160.15	2497.08	38.0	65.5	-0.4	0.7	22.5	100	100
9	10	25	MJVE	1000102 00	3237.26	2538.78	2160.36	2598.30	48.6	37.1	-0.4	0.7	11.5	100	100
9	10	26	MJVE	1000102 00	3257.26	2637.12	2160.44	2698.05	31.9	24.6	-0.2	-0.9	13.2	100	100
9	10	27	MJVE	1000102 00	3277.66	2731.71	2160.56	2800.?0	97.0	82.3	0.0	-4.0	14.6	100	100
9	10	28	MJVE	1000102 00	3297.87	2827.12	2160.67	2901.37	38.7	46.2	0.3	-7.5	12.6	100	100
9	10	29	MJVE	1000102 00	3318.09	2922.74	2160.89	3001.57	29.1	46.2	0.5	-10.5	12.9	100	100
9	10	30	MJVE	1000102 00	3338.55	3020.80	2161.17	3103.44	25.1	41.0	0.5	-12.7	14.1	100	100
9	10	31	MJVE	1000102 00	3358.66	3119.63	2161.39	3204.26	29.7	47.4	0.5	-13.2	12.3	100	100
9	10	60	MJVE	1000102 00	3340.83	2439.64	2250.50	2519.50	28.1	83.9	-0.3	7.4	25.8	100	100
9	10	61	MJVE	1000102 00	3326.82	2337.77	2250.50	2422.50	74.7	58.9	-0.3	0.7	15.8	100	100
9	10	62	MJVE	1000102 00	3307.95	2242.58	2250.50	2322.50	46.3	35.8	-0.0	0.7	10.6	100	100
9	10	63	MJVE	1000102 00	3289.01	2146.36	2250.50	2225.50	47.6	37.7	-0.1	0.7	9.9	100	100
9	10	64	MJVE	1000102 00	3269.97	2050.10	2250.50	2132.50	59.5	46.6	-0.0	0.6	9.9	100	100
9	10	65	MJVE	1000102 00	3250.87	1957.89	2250.50	2032.50	41.1	32.7	-0.0	0.5	8.3	100	100
9	10	66	MJVE	1000102 00	3231.53	1864.24	2250.50	1932.50	37.1	28.5	-0.0	0.0	8.6	100	100
9	10	67	MJVE	1000102 00	3212.32	1766.64	2250.50	1841.50	40.7	32.5	-0.4	-0.5	8.2	100	100
9	10	68	MJVE	1000102 00	3193.55	1672.24	2250.50	1745.50	42.6	33.1	-0.3	-0.5	9.5	100	100
9	10	69	MJVE	1000102 00	3174.58	1576.46	2250.50	1648.50	120.8	92.8	-0.1	-0.6	28.1	100	100
9	10	70	MJVE	1000102 00	3155.22	1480.23	2250.50	1551.50	40.8	33.5	-0.2	-0.9	13.3	100	100
9	10	71	MJVE	1000102 00	3135.87	1384.12	2250.50	1454.50	40.8	30.4	-0.4	-1.1	10.4	100	100
9	10	72	MJVE	1000102 00	3116.50	1288.66	2250.50	1358.50	39.4	33.5	-0.7	-1.6	16.9	100	100
9	10	73	MJVE	1000102 00	3097.35	1191.55	2250.50	1261.50	118.3	86.6	-0.7	-2.8	31.7	100	100
9	10	74	MJVE	1000102 00	3078.29	1095.47	2250.50	1164.50	48.5	34.4	-0.5	-2.9	14.1	100	100
9	10	75	MJVE	1000102 00	3058.76	999.05	2250.50	1067.50	43.8	31.6	-0.9	-3.4	12.1	100	100
9	10	76	MJVE	1000102 00	3039.58	903.08	2250.50	970.50	120.3	94.0	-0.8	-3.4	26.4	100	100
9	10	77	MJVE	1000102 00	3020.72	808.58	2250.50	874.50	120.6	85.0	-0.7	-3.0	35.7	100	100
9	10	78	MJVE	1000102 00	3002.40	713.28	2250.50	777.50	45.3	32.4	0.2	-2.4	12.9	100	100
9	10	79	MJVE	1000102 00	2982.65	618.54	2250.50	680.50	129.2	99.9	-0.4	-1.2	29.3	100	100
9	10	80	MJVE	1000102 00	2963.67	523.06	2250.50	583.50	133.6	96.3	-0.1	-0.7	37.4	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	BASE FRAME FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
9	10	MOVE	100010200	2945.02	429.14	2250.50	987.50	137.4	105.9	0.2	0.3	31.5	100	100
9	11	MOVE	100010200	2925.89	333.73	2250.50	890.50	129.9	108.4	0.3	0.8	21.5	100	100
9	12	MOVE	100010200	2906.69	238.98	2250.50	793.50	130.1	103.1	0.2	1.7	33.0	100	100
9	13	MOVE	100010200	2887.77	143.88	2250.50	696.50	134.0	99.1	0.3	2.1	34.9	100	100
10	7	MOVE	3700 9600	593.31	1713.56	342.05	1217.85	24.8	115.1	0.3	-0.7	-60.3	100	100
10	7	MOVE	3700 9600	687.25	1691.30	410.48	1210.90	17.3	65.8	0.3	-2.7	-48.5	100	100
10	7	MOVE	3700 9600	457.35	678.69	393.50	100.50	48.0	109.9	-0.0	-0.1	-63.9	100	100
10	7	MOVE	3700 9600	324.11	713.25	295.50	135.50	13.6	41.9	-0.2	-0.3	-28.3	100	100
10	8	MOVE	3700 9600	774.11	1382.14	515.52	939.40	38.0	50.5	0.7	1.8	-12.5	0	0
10	8	MOVE	3700 9600	906.48	1343.05	613.53	929.45	38.5	53.3	1.1	2.9	-14.8	0	0
10	8	MOVE	3700 9600	1037.60	1304.83	710.46	920.40	37.3	49.0	1.4	3.7	-11.7	0	0
10	8	MOVE	3700 9600	1170.11	1266.74	808.28	911.24	35.9	46.3	1.6	3.9	-10.4	0	0
10	8	MOVE	3700 9600	1302.92	1229.33	906.32	902.47	42.2	52.3	1.8	4.5	-10.1	0	0
10	8	MOVE	3700 9600	1435.69	1190.75	1004.65	893.42	42.2	39.7	1.8	5.3	-7.5	0	0
10	8	MOVE	3700 9600	1699.72	1114.87	1199.89	870.25	42.0	48.3	1.9	5.8	-6.3	0	0
10	8	MOVE	3700 9600	1832.35	1077.43	1297.75	871.30	44.0	52.1	2.1	5.5	-8.1	0	0
10	8	MOVE	3700 9600	1964.97	1040.21	1395.51	863.42	42.2	39.9	2.4	5.9	-7.7	0	0
10	8	MOVE	3700 9600	2096.77	1001.71	1493.53	855.43	34.1	41.9	2.0	6.9	-7.8	0	0
10	8	MOVE	3700 9600	2229.33	962.85	1591.58	848.38	41.8	49.1	2.2	7.9	-7.3	0	0
10	8	MOVE	3700 9600	2362.08	924.92	1689.51	838.43	44.2	47.6	2.3	8.1	-3.3	0	0
10	8	MOVE	3700 9600	2495.52	887.18	1786.53	830.18	35.2	40.7	2.2	8.3	-5.5	0	0
10	8	MOVE	3700 9600	2628.39	848.91	1884.69	821.40	40.2	53.1	2.1	8.8	-4.9	0	0
10	8	MOVE	3700 9600	2444.61	147.02	1659.50	110.50	43.4	63.9	3.0	9.6	-18.5	0	0
10	8	MOVE	3700 9600	1914.27	289.25	1468.50	130.50	33.4	42.8	2.2	7.2	-7.3	0	0
10	8	MOVE	3700 9600	1781.44	324.34	1370.50	140.50	111.9	124.4	2.1	6.5	-12.5	0	0
10	8	MOVE	3700 9600	1648.76	360.18	1272.50	149.50	38.3	50.7	1.9	5.6	-12.4	0	0
10	8	MOVE	3700 9600	1384.40	431.31	1077.50	170.50	119.7	132.3	1.3	4.5	-16.6	0	0
10	8	MOVE	3700 9600	1118.64	501.21	881.50	189.50	40.8	53.0	0.6	1.8	-12.2	0	0
10	8	MOVE	3700 9600	987.33	536.51	784.50	198.50	44.1	59.8	0.4	0.7	-15.7	0	0
10	8	MOVE	3700 9600	854.41	571.96	686.50	172.50	120.2	135.6	-0.2	0.4	-15.7	0	0
10	8	MOVE	3700 9600	721.64	607.95	588.50	177.50	124.0	140.6	-0.0	-0.1	-16.6	0	0
10	8	MOVE	3700 9600	588.42	642.41	490.50	181.50	39.2	51.3	-0.3	-0.7	-12.2	0	0
10	8	MOVE	3700 9600	1765.23	427.11	1344.00	230.00	0.0	0.0	1.6	3.2	0.0	0	0
10	8	MOVE	3700 9600	1770.95	373.99	1356.00	180.00	0.0	0.0	1.7	5.1	0.0	0	0
10	8	MOVE	3700 9600	2101.99	291.31	1599.00	181.00	0.0	0.0	2.7	6.1	0.0	0	0
10	8	MOVE	3700 9600	2260.34	229.99	1719.00	197.00	0.0	0.0	2.7	8.0	0.0	0	0
10	8	MOVE	3700 9600	2477.16	173.54	1878.00	151.00	0.0	0.0	4.1	9.1	0.0	0	0
10	8	MOVE	3700 9600	2688.73	102.63	2036.00	130.00	0.0	0.0	4.8	10.5	0.0	0	0
10	8	MOVE	3700 9600	2869.21	84.08	2165.00	152.00	0.0	0.0	5.0	11.5	0.0	0	0
10	8	MOVE	3700 9600	2909.42	187.52	2178.00	261.00	0.0	0.0	4.7	5.2	0.0	0	0
10	8	MOVE	3700 9600	2977.10	268.70	2214.00	353.00	0.0	0.0	4.0	9.1	0.0	0	0
10	8	MOVE	3700 9600	3072.60	329.74	2272.00	431.00	0.0	0.0	4.5	10.0	0.0	0	0
10	8	MOVE	3700 9600	2972.72	452.43	2184.00	426.00	0.0	0.0	4.0	9.1	0.0	0	0
10	8	MOVE	3700 9600	3053.31	386.91	2250.00	481.00	0.0	0.0	4.8	9.6	0.0	0	0
10	8	MOVE	3700 9600	2913.62	300.00	2165.00	369.00	0.0	0.0	3.7	8.2	0.0	0	0
10	8	MOVE	3700 9600	3003.30	417.64	2211.00	499.00	0.0	0.0	3.9	9.5	0.0	0	0
10	8	MOVE	3700 9600	3035.90	492.79	2223.00	577.00	0.0	0.0	4.0	9.7	0.0	0	0
10	8	MOVE	3700 9600	3026.32	585.14	2203.00	661.00	0.0	0.0	4.2	10.8	0.0	0	0

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	BASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
8	317	MOVE	3700	9600	2983.55	630.85	2166.00	899.00	0.0	0.0	9.5	11.0	0.0	0	100
8	318	MOVE	3700	9600	2860.64	648.86	2078.00	885.00	0.0	0.0	2.0	8.7	0.0	0	100
8	319	MOVE	3700	9600	2928.02	750.38	2109.00	990.00	0.0	0.0	4.1	12.2	0.0	0	100
8	320	MOVE	3700	9600	3130.59	720.79	2255.00	913.00	0.0	0.0	6.1	15.8	0.0	0	100
8	321	MOVE	3700	9600	2860.91	889.51	2043.00	960.00	0.0	0.0	3.4	14.3	0.0	0	100
8	322	MOVE	3700	9600	2814.50	809.72	2022.00	823.00	0.0	0.0	2.6	11.5	0.0	0	100
8	323	MOVE	3700	9600	2700.36	845.83	1937.00	833.00	0.0	0.0	1.9	10.1	0.0	0	100
8	324	MOVE	3700	9600	2580.10	872.15	1849.00	830.00	0.0	0.0	1.8	9.5	0.0	0	100
9	1	MOVE	3700	9600	59.06	762.04	100.50	200.50	105.4	137.0	-0.7	-2.2	-31.6	100	100
9	2	MOVE	3700	9600	79.12	874.71	100.50	298.50	109.3	135.8	-0.2	-1.9	-31.5	100	100
9	3	MOVE	3700	9600	98.50	975.56	100.50	390.50	99.0	45.7	-0.3	-1.1	-10.7	100	100
9	4	MOVE	3700	9600	118.35	1073.00	100.50	482.50	97.2	130.8	-0.1	-0.7	-33.6	100	100
9	5	MOVE	3700	9600	138.05	1170.39	100.50	573.50	109.1	140.1	0.1	0.6	-31.0	100	100
9	6	MOVE	3700	9600	157.42	1266.55	100.50	671.50	99.9	42.6	0.0	0.7	-11.7	100	100
9	7	MOVE	3700	9600	176.52	1364.83	100.50	770.50	97.5	121.7	-0.5	2.0	-32.3	100	100
9	8	MOVE	3700	9600	197.23	1461.27	100.50	860.50	80.4	102.5	0.7	2.5	-22.1	100	100
9	9	MOVE	3700	9600	217.11	1559.57	100.50	957.50	98.2	121.8	0.8	2.7	-35.6	100	100
9	10	MOVE	3700	9600	236.51	1658.01	100.50	1052.50	105.5	139.6	0.3	2.6	-34.1	100	100
9	11	MOVE	3700	9600	256.72	1756.57	100.50	1163.50	99.1	127.7	0.5	2.2	-32.6	100	100
9	12	MOVE	3700	9600	276.86	1856.02	100.50	1262.50	99.4	39.5	0.4	1.6	-10.1	100	100
9	13	MOVE	3700	9600	296.58	1955.31	100.50	1360.50	98.7	119.4	0.0	0.9	-22.7	100	100
9	14	MOVE	3700	9600	317.04	2054.19	100.50	1459.50	97.7	130.7	0.2	0.8	-32.9	100	100
9	15	MOVE	3700	9600	337.21	2152.82	100.50	1557.50	99.1	45.5	0.3	0.4	-11.4	100	100
9	16	MOVE	3700	9600	357.15	2251.73	100.50	1655.50	91.3	107.8	0.3	0.8	-26.5	100	100
9	17	MOVE	3700	9600	377.26	2351.32	100.50	1774.50	97.3	47.7	0.3	1.1	-10.4	100	100
9	18	MOVE	3700	9600	397.30	2449.55	100.50	1872.50	99.4	48.8	0.4	1.0	-9.4	100	100
9	19	MOVE	3700	9600	417.04	2547.51	100.50	1970.50	98.1	96.9	0.2	0.7	-26.8	100	100
9	20	MOVE	3700	9600	437.41	2646.54	100.50	2069.50	97.0	107.9	0.5	0.4	-20.9	100	100
9	21	MOVE	3700	9600	457.19	2744.50	100.50	2167.50	96.6	92.8	0.4	-0.1	-15.1	100	100
9	22	MOVE	3700	9600	477.18	2843.56	100.50	2266.50	92.0	40.5	0.3	-0.1	-8.5	100	100
9	23	MOVE	3700	9600	497.15	2941.62	100.50	2364.50	96.3	93.1	0.3	-0.3	-17.8	100	100
9	24	MOVE	3700	9600	517.09	3039.50	100.50	2462.50	99.5	88.0	0.4	-0.7	-22.5	100	100
9	25	MOVE	3700	9600	537.26	3138.78	100.50	2561.50	97.1	48.6	0.4	-0.7	-11.5	100	100
9	26	MOVE	3700	9600	557.26	3239.12	100.50	2659.50	94.6	37.9	0.2	0.9	-13.2	100	100
9	27	MOVE	3700	9600	577.66	3337.71	100.50	2758.50	92.3	97.0	-0.0	4.0	-14.6	100	100
9	28	MOVE	3700	9600	597.87	3437.12	100.50	2856.50	90.2	58.7	-0.3	7.5	-12.6	100	100
9	29	MOVE	3700	9600	618.09	3522.74	100.50	2954.50	96.2	59.1	-0.5	10.5	-12.9	100	100
9	30	MOVE	3700	9600	638.55	3620.86	100.50	3053.50	91.0	55.1	-0.5	12.7	-14.1	100	100
9	31	MOVE	3700	9600	658.66	3719.63	100.50	3151.50	97.4	59.7	-0.5	13.2	-12.3	100	100
9	60	MOVE	3700	9600	640.83	3033.64	182.26	2494.47	83.9	58.1	0.3	-7.4	25.8	100	100
9	61	MOVE	3700	9600	626.82	2937.77	191.05	2389.03	98.9	74.7	0.3	-0.7	-15.8	100	100
9	62	MOVE	3700	9600	607.95	2842.56	192.12	2294.24	95.8	46.3	0.0	-0.7	-10.6	100	100
9	63	MOVE	3700	9600	589.01	2744.36	192.19	2200.28	97.7	47.6	0.1	-0.7	-9.9	100	100
9	64	MOVE	3700	9600	569.97	2653.10	192.42	2105.47	96.6	56.5	0.0	-0.6	-9.9	100	100
9	65	MOVE	3700	9600	550.87	2557.89	192.53	2010.50	92.7	41.1	0.0	-0.5	-8.3	100	100
9	66	MOVE	3700	9600	531.53	2462.24	192.45	1914.50	98.5	37.1	0.3	-0.0	-8.6	100	100
9	67	MOVE	3700	9600	512.32	2366.64	192.53	1818.50	92.5	40.7	0.4	0.5	-8.2	100	100
9	68	MOVE	3700	9600	493.55	2272.24	192.37	1724.52	99.1	42.6	0.3	0.5	-9.5	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PENNSYLVANIA MOSAIC UTM ZONE 18 INITIAL MOSAIC DATA BASE

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	CASE FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
9999	69	MOVE	3700	9600	474.58	2170.46	193.35	1069.20	92.8	120.8	0.1	0.6	-28.1	100	100
9999	70	MOVE	3700	9600	455.22	2080.23	193.46	1333.50	33.5	46.8	0.2	0.9	-13.3	100	100
9999	71	MOVE	3700	9600	435.87	1984.12	193.60	1438.42	30.4	40.8	0.4	1.1	-10.4	100	100
9999	72	MOVE	3700	9600	416.50	1888.66	193.50	1493.98	33.5	50.4	0.7	1.6	-16.9	100	100
9999	73	MOVE	3700	9600	397.35	1791.55	194.18	1240.75	88.6	118.3	0.7	2.8	-31.7	100	100
9999	74	MOVE	3700	9600	378.29	1695.47	194.62	1151.09	34.4	48.5	0.5	2.9	-14.1	100	100
9999	75	MOVE	3700	9600	358.76	1599.05	194.33	1033.42	31.6	43.8	0.9	3.4	-12.1	100	100
9999	76	MOVE	3700	9600	339.58	1503.08	194.36	959.93	94.0	120.3	0.8	3.4	-26.4	100	100
9999	77	MOVE	3700	9600	320.72	1408.58	194.48	804.52	89.0	120.6	0.7	3.0	-35.7	100	100
9999	78	MOVE	3700	9600	302.40	1313.28	195.67	708.93	32.4	45.3	-0.2	2.4	-12.9	100	100
9999	79	MOVE	3700	9600	282.65	1218.54	194.70	672.36	99.9	129.2	0.4	1.2	-29.3	100	100
9999	80	MOVE	3700	9600	263.67	1123.06	195.04	575.35	96.3	133.6	-0.1	0.7	-37.4	100	100
9999	81	MOVE	3700	9600	245.02	1029.14	195.40	480.22	105.9	137.4	-0.2	-0.3	-31.5	100	100
9999	82	MOVE	3700	9600	225.89	933.73	195.50	384.49	108.4	129.9	-0.3	-0.8	-21.5	100	100
9999	83	MOVE	3700	9600	206.69	834.98	195.31	287.59	103.1	136.1	-0.2	-1.7	-33.0	100	100
9999	84	MOVE	3700	9600	187.77	743.88	195.63	191.40	99.1	134.0	-0.3	-2.1	-34.9	100	100
9999	1	FIX	3700	9600	961.67	3480.70	343.18	3067.04	27.2*******		0.0	0.0		100	100
9999	2	FIX	3700	9600	2337.40	1469.18	1596.01	1350.00	19.6*******		0.0	0.0		100	100
9999	3	FIX	3700	9600	767.54	3151.05	260.13	2822.00	15.6*******		0.0	0.0		100	100
9999	4	FIX	3700	9600	2428.80	2498.65	1512.44	2351.34	20.0*******		0.0	0.0		100	100
9999	5	FIX	3700	9600	1871.90	1906.48	1207.46	1671.00	28.4*******		0.0	0.0		100	100
9999	6	FIX	3700	9600	2515.87	1210.47	1756.08	1150.85	28.2*******		0.0	0.0		100	100
9999	7	FIX	3700	9600	2768.27	823.14	1987.45	836.31	20.4*******		0.0	0.0		100	100
9999	8	FIX	3700	9600	1981.29	1257.05	1376.66	1081.80	27.6*******		0.0	0.0		100	100
9999	9	FIX	3700	9600	2195.21	804.06	1582.43	753.12	28.3*******		0.0	0.0		100	100
9999	10	FIX	3700	9600	791.34	1432.74	520.71	993.56	18.8*******		0.0	0.0		100	100
9999	11	FIX	3700	9600	473.66	1642.20	269.19	1165.26	20.8*******		0.0	0.0		100	100
9999	12	FIX	3700	9600	199.98	1541.29	91.23	989.32	21.9*******		0.0	0.0		100	100
9999	13	FIX	3700	9600	970.57	1067.56	697.73	882.74	19.6*******		0.0	0.0		100	100
9999	14	FIX	3700	9600	696.80	934.38	524.88	692.61	23.4*******		0.0	0.0		100	100
9999	15	FIX	3700	9600	277.76	697.54	265.13	403.33	19.4*******		0.0	0.0		100	100
9999	16	FIX	3700	9600	3196.55	2369.60	2066.10	2394.09	33.8*******		0.0	0.0		100	100
9999	17	FIX	3700	9600	373.71	2174.79	123.05	1666.43	24.5*******		0.0	0.0		100	100
9999	18	FIX	3700	9600	1386.89	3261.54	677.04	2803.31	26.4*******		0.0	0.0		100	100
9999	19	FIX	3700	9600	2227.37	3061.24	1292.03	2655.96	32.8*******		0.0	0.0		100	100
9999	20	FIX	3700	9600	2717.57	2649.20	1693.43	2220.34	28.9*******		0.0	0.0		100	100
9999	21	FIX	3700	9600	3312.87	2504.56	2128.08	2550.12	25.4*******		0.0	0.0		100	100
9999	22	FIX	3700	9600	3012.29	1475.63	2065.14	1500.80	32.5*******		0.0	0.0		100	100
9999	23	FIX	3700	9600	2961.04	95.44	2229.97	190.10	27.7*******		0.0	0.0		100	100
9999	24	FIX	3700	9600	2129.50	492.21	1588.98	380.17	27.8*******		0.0	0.0		100	100
9999	25	FIX	3700	9600											

TABLE 8

MOS34 Output Listing UTM Zone 17, Second Date 1981

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

PAGE 1.001

CASE MGM900.PAT STEP 4

FRAME	TiePOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
11 11	549	FIX	900	1100	650.50	2950.50	169.85	2670.34	80.4*******		0.0	0.0**********		100	100
11 11	549	FIX	900	1100	1019.50	2720.50	585.54	2523.38	114.1*******		0.0	0.0**********		100	100
11 11	550	FIX	900	1100	625.50	3387.50	50.82	3103.46	101.4*******		0.0	0.0**********		100	100
11 11	551	FIX	900	1100	625.50	3600.50	18.24	3303.19	100.9*******		0.0	0.0**********		100	100
11 11	554	FIX	900	1100	937.50	2662.50	514.98	2447.19	104.8*******		0.0	0.0**********		100	100
11 11	562	FIX	900	1100	750.50	2450.50	373.39	2211.54	109.5*******		0.0	0.0**********		100	100
11 11	564	FIX	900	1100	837.50	2750.50	396.06	2515.80	105.0*******		0.0	0.0**********		100	100
11 11	568	FIX	900	1100	837.50	3600.50	223.53	3351.48	83.5*******		0.0	0.0**********		100	100
11 11	575	FIX	900	1100	657.50	2114.50	343.18	1859.55	0.0*******		0.0	0.0**********		100	100
11 11	584	FIX	900	1100	1285.50	1642.50	1064.15	1532.04	111.4*******		0.0	0.0**********		100	100
11 11	585	FIX	900	1100	1050.50	3600.50	431.28	3391.94	99.0*******		0.0	0.0**********		100	100
11 11	590	FIX	900	1100	1742.50	1442.50	1547.37	1424.89	0.0*******		0.0	0.0**********		100	100
11 11	592	FIX	900	1100	1914.50	1414.50	1720.43	1421.07	111.7*******		0.0	0.0**********		100	100
11 11	594	FIX	900	1100	1262.50	1900.50	983.45	1774.65	94.4*******		0.0	0.0**********		100	100
11 11	597	FIX	900	1100	2013.50	1645.50	1770.09	1670.43	115.4*******		0.0	0.0**********		100	100
11 11	601	FIX	900	1100	1668.50	1827.50	1398.03	1787.95	106.7*******		0.0	0.0**********		100	100
11 11	602	FIX	900	1100	1262.50	3600.50	638.89	3441.26	99.8*******		0.0	0.0**********		100	100
11 11	607	FIX	900	1100	1475.50	1050.50	1367.48	992.34	94.3*******		0.0	0.0**********		100	100
11 11	609	FIX	900	1100	1475.50	1475.50	1279.36	1399.34	118.0*******		0.0	0.0**********		100	100
11 11	613	FIX	900	1100	631.50	2372.50	269.77	2104.58	101.0*******		0.0	0.0**********		100	100
11 11	623	FIX	900	1100	1687.50	837.50	1614.67	820.18	99.0*******		0.0	0.0**********		100	100
11 11	625	FIX	900	1100	1687.50	1262.50	1529.70	1238.52	108.7*******		0.0	0.0**********		100	100
11 11	626	FIX	900	1100	1687.50	1900.50	1401.96	1863.93	100.5*******		0.0	0.0**********		100	100
11 11	630	FIX	900	1100	1687.50	2325.50	1315.65	2281.70	111.4*******		0.0	0.0**********		100	100
11 11	631	FIX	900	1100	1687.50	2537.50	1271.24	2489.52	100.0*******		0.0	0.0**********		100	100
11 11	633	FIX	900	1100	1687.50	2962.50	1185.22	2899.96	97.6*******		0.0	0.0**********		100	100
11 11	634	FIX	900	1100	1687.50	3175.50	1142.96	3105.27	107.3*******		0.0	0.0**********		100	100
11 11	635	FIX	900	1100	1687.50	3387.50	1098.99	3309.27	108.4*******		0.0	0.0**********		100	100
11 11	639	FIX	900	1100	1900.50	625.50	1864.59	602.84	129.8*******		0.0	0.0**********		100	100
11 11	641	FIX	900	1100	1900.50	1050.50	1778.76	1014.93	100.0*******		0.0	0.0**********		100	100
11 11	648	FIX	900	1100	1900.50	2537.50	1480.53	2520.62	100.7*******		0.0	0.0**********		100	100
11 11	649	FIX	900	1100	1900.50	2750.50	1437.25	2730.47	118.3*******		0.0	0.0**********		100	100
11 11	650	FIX	900	1100	1900.50	2962.50	1394.53	2941.77	88.7*******		0.0	0.0**********		100	100
11 11	651	FIX	900	1100	1900.50	3175.50	1351.61	3147.69	101.6*******		0.0	0.0**********		100	100
11 11	655	FIX	900	1100	2112.50	412.50	2114.07	504.40	105.6*******		0.0	0.0**********		100	100
11 11	656	FIX	900	1100	2112.50	625.50	2071.32	704.72	107.2*******		0.0	0.0**********		100	100
11 11	662	FIX	900	1100	2112.50	2537.50	1688.31	2509.28	110.1*******		0.0	0.0**********		100	100
11 11	666	FIX	900	1100	2112.50	2750.50	1645.13	2718.28	110.8*******		0.0	0.0**********		100	100
11 11	667	FIX	900	1100	2112.50	2962.50	1602.52	2963.40	108.3*******		0.0	0.0**********		100	100
11 11	668	FIX	900	1100	2112.50	3175.50	1559.85	3109.47	116.6*******		0.0	0.0**********		100	100
11 11	674	FIX	900	1100	2325.50	837.50	2237.39	949.78	106.1*******		0.0	0.0**********		100	100
11 11	676	FIX	900	1100	2325.50	1262.50	2152.45	1304.06	111.2*******		0.0	0.0**********		100	100
11 11	680	FIX	900	1100	2325.50	2112.50	1981.71	2201.26	100.8*******		0.0	0.0**********		100	100
11 11	681	FIX	900	1100	2325.50	2325.50	1939.44	2405.04	112.7*******		0.0	0.0**********		100	100
11 11	685	FIX	900	1100	2325.50	2750.50	1853.57	2819.72	112.0*******		0.0	0.0**********		100	100
11 11	685	FIX	900	1100	2325.50	3175.50	1768.40	3230.08	109.1*******		0.0	0.0**********		100	100

This tiepoint file is used as input to geometrically correct each Landsat scene used in the UTM Zone 17 second date 1981 mosaic.

CASE MGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
11	11	689	FIX	900	1100	2537.50	412.50	2531.25	582.07	95.2	*******	0.0	0.0	**********	100	100
11	11	690	FIX	900	1100	2537.50	625.50	2488.40	784.99	103.4	*******	0.0	0.0	**********	100	100
11	11	691	FIX	900	1100	2537.50	837.50	2445.71	990.29	102.5	*******	0.0	0.0	**********	100	100
11	11	692	FIX	900	1100	2537.50	1050.50	2403.48	1199.43	101.3	*******	0.0	0.0	**********	100	100
11	11	694	FIX	900	1100	2537.50	1475.50	2316.33	1615.92	104.3	*******	0.0	0.0	**********	100	100
11	11	695	FIX	900	1100	2537.50	1687.50	2275.71	1823.03	103.3	*******	0.0	0.0	**********	100	100
11	11	698	FIX	900	1100	2537.50	2325.50	2146.70	2447.37	95.3	*******	0.0	0.0	**********	100	100
11	11	699	FIX	900	1100	2537.50	2537.50	2104.24	2654.13	89.0	*******	0.0	0.0	**********	100	100
11	11	700	FIX	900	1100	2537.50	2750.50	2062.47	2861.12	105.5	*******	0.0	0.0	**********	100	100
11	11	701	FIX	900	1100	2537.50	2962.50	2019.41	3064.37	81.8	*******	0.0	0.0	**********	100	100
11	11	702	FIX	900	1100	2537.50	3175.50	1976.82	3270.40	102.2	*******	0.0	0.0	**********	100	100
11	11	705	FIX	900	1100	2750.50	200.50	2783.60	421.38	102.9	*******	0.0	0.0	**********	100	100
11	11	709	FIX	900	1100	2750.50	1050.50	2612.36	1242.49	100.3	*******	0.0	0.0	**********	100	100
11	11	710	FIX	900	1100	2750.50	1262.50	2569.22	1449.29	98.9	*******	0.0	0.0	**********	100	100
11	11	711	FIX	900	1100	2750.50	1475.50	2526.81	1656.35	112.9	*******	0.0	0.0	**********	100	100
11	11	713	FIX	900	1100	2750.50	1900.50	2440.36	2080.43	98.5	*******	0.0	0.0	**********	100	100
11	11	715	FIX	900	1100	2750.50	2325.50	2355.52	2489.33	127.8	*******	0.0	0.0	**********	100	100
11	11	716	FIX	900	1100	2750.50	2537.50	2313.86	2694.65	92.9	*******	0.0	0.0	**********	100	100
11	11	724	FIX	900	1100	2962.50	625.50	2907.82	870.03	12.0	*******	0.0	0.0	**********	100	100
11	11	725	FIX	900	1100	2962.50	837.50	2863.46	1072.38	100.4	*******	0.0	0.0	**********	100	100
11	11	727	FIX	900	1100	2962.50	1262.50	2778.25	1489.81	101.3	*******	0.0	0.0	**********	100	100
11	11	728	FIX	900	1100	2962.50	1475.50	2735.75	1700.16	108.5	*******	0.0	0.0	**********	100	100
11	11	729	FIX	900	1100	2962.50	1687.50	2692.74	1911.73	100.7	*******	0.0	0.0	**********	100	100
11	11	730	FIX	900	1100	2962.50	1900.50	2649.24	2121.07	107.8	*******	0.0	0.0	**********	100	100
11	11	731	FIX	900	1100	2962.50	2112.50	2607.49	2329.04	101.0	*******	0.0	0.0	**********	100	100
11	11	733	FIX	900	1100	2962.50	2537.50	2522.07	2758.05	97.7	*******	0.0	0.0	**********	100	100
11	11	734	FIX	900	1100	2962.50	2750.50	2479.34	2964.93	95.2	*******	0.0	0.0	**********	100	100
11	11	735	FIX	900	1100	2962.50	2962.50	2437.20	3168.73	104.5	*******	0.0	0.0	**********	100	100
11	11	748	FIX	900	1100	3175.50	1687.50	2900.47	1930.43	103.4	*******	0.0	0.0	**********	100	100
11	11	749	FIX	900	1100	3175.50	2325.50	2773.46	2570.01	109.8	*******	0.0	0.0	**********	100	100
11	11	750	FIX	900	1100	3175.50	2537.50	2730.96	2781.27	100.3	*******	0.0	0.0	**********	100	100
11	11	751	FIX	900	1100	3175.50	2750.50	2688.68	2987.82	100.6	*******	0.0	0.0	**********	100	100
11	11	753	FIX	900	1100	3175.50	3175.50	2599.45	3393.10	95.9	*******	0.0	0.0	**********	100	100
11	111412		FIX	900	1100	547.50	3192.50	21.36	2893.91	112.7	*******	0.0	0.0	**********	100	100
11	111414		FIX	900	1100	741.50	3208.50	211.48	2552.49	93.8	*******	0.0	0.0	**********	100	100
11	111419		FIX	900	1100	817.50	3142.50	294.50	2896.79	88.9	*******	0.0	0.0	**********	100	100
11	111425		FIX	900	1100	650.50	2950.50	169.85	2670.51	80.4	*******	0.0	0.0	**********	100	100
11	111432		FIX	900	1100	1095.50	2920.50	821.26	2739.63	98.3	*******	0.0	0.0	**********	100	100
11	111433		FIX	900	1100	833.50	2883.50	360.51	2649.15	120.3	*******	0.0	0.0	**********	100	100
11	111456		FIX	900	1100	424.50	2657.50	10.78	2391.41	102.2	*******	0.0	0.0	**********	100	100
11	111460		FIX	900	1100	591.50	2558.50	197.44	2290.82	112.6	*******	0.0	0.0	**********	100	100
11	111462		FIX	900	1100	750.50	2450.50	377.56	2210.13	109.5	*******	0.0	0.0	**********	100	100
11	111480		FIX	900	1100	1057.50	1928.50	776.20	1770.08	110.6	*******	0.0	0.0	**********	100	100
11	111484		FIX	900	1100	1293.50	1650.50	1069.94	1541.32	105.9	*******	0.0	0.0	**********	100	100
11	111489		FIX	900	1100	1665.50	1465.50	1467.51	1434.61	103.0	*******	0.0	0.0	**********	100	100
11	111490		FIX	900	1100	1742.50	1442.50	1547.51	1427.52	0.0	*******	0.0	0.0	**********	100	100

CASE KGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
11	111491	FIX	900	1100	1820.50	1420.50	1626.84	1419.03	122.6*******		0.0	0.0**********		100	100
11	111492	FIX	900	1100	1914.50	1414.50	1721.42	1433.51	111.7*******		0.0	0.0**********		100	100
11	111494	FIX	900	1100	2025.50	1458.50	1821.48	1498.98	108.0*******		0.0	0.0**********		100	100
11	111495	FIX	900	1100	2194.50	1562.50	1965.37	1633.23	76.8*******		0.0	0.0**********		100	100
11	111498	FIX	900	1100	1919.50	1682.50	1671.35	1695.35	121.7*******		0.0	0.0**********		100	100
11	111500	FIX	900	1100	1754.50	1781.50	1490.65	1759.44	116.9*******		0.0	0.0**********		100	100
11	111502	FIX	900	1100	1581.50	1872.50	1304.29	1815.00	94.8*******		0.0	0.0**********		100	100
11	111504	FIX	900	1100	1417.50	1971.50	1124.73	1882.44	105.4*******		0.0	0.0**********		100	100
11	111505	FIX	900	1100	1322.50	2009.50	1025.36	1922.28	110.5*******		0.0	0.0**********		100	100
11	111601	FIX	900	1100	949.00	2214.00	625.00	2031.00	0.0*******		0.0	0.0**********		100	100
11	111602	FIX	900	1100	1014.00	2248.00	679.00	2070.00	0.0*******		0.0	0.0**********		100	100
11	111603	FIX	900	1100	995.00	2356.00	639.00	2180.00	0.0*******		0.0	0.0**********		100	100
11	111604	FIX	900	1100	1069.00	2318.00	719.00	2157.00	0.0*******		0.0	0.0**********		100	100
11	111605	FIX	900	1100	1192.00	2374.00	825.00	2234.00	0.0*******		0.0	0.0**********		100	100
11	111606	FIX	900	1100	1149.00	2235.00	812.00	2091.00	0.0*******		0.0	0.0**********		100	100
11	111607	FIX	900	1100	918.00	2363.00	564.00	2172.00	0.0*******		0.0	0.0**********		100	100
11	111608	FIX	900	1100	828.00	2494.00	448.00	2278.00	0.0*******		0.0	0.0**********		100	100
11	111609	FIX	900	1100	955.00	2481.00	574.00	2291.00	0.0*******		0.0	0.0**********		100	100
11	111610	FIX	900	1100	1175.00	2629.00	758.00	2475.00	0.0*******		0.0	0.0**********		100	100
11	111611	FIX	900	1100	1171.00	2566.00	765.00	2415.00	0.0*******		0.0	0.0**********		100	100
11	111612	FIX	900	1100	993.00	2647.00	577.00	2498.00	0.0*******		0.0	0.0**********		100	100
11	111613	FIX	900	1100	1055.00	2773.00	611.00	2592.00	0.0*******		0.0	0.0**********		100	100
11	111614	FIX	900	1100	1072.00	2828.00	616.00	2649.00	0.0*******		0.0	0.0**********		100	100
11	111615	FIX	900	1100	922.00	2718.00	494.00	2513.00	0.0*******		0.0	0.0**********		100	100
11	111616	FIX	900	1100	935.00	2840.00	481.00	2635.00	0.0*******		0.0	0.0**********		100	100
11	111617	FIX	900	1100	1279.00	2884.00	804.00	2743.00	0.0*******		0.0	0.0**********		100	100
11	111618	FIX	900	1100	1261.00	2778.00	809.00	2636.00	0.0*******		0.0	0.0**********		100	100
11	111619	FIX	900	1100	1379.00	2904.00	897.00	2764.00	0.0*******		0.0	0.0**********		100	100
11	111620	FIX	900	1100	1169.00	2918.00	690.00	2758.00	0.0*******		0.0	0.0**********		100	100
11	111621	FIX	900	1100	1324.00	3080.00	806.00	2943.00	0.0*******		0.0	0.0**********		100	100
11	111622	FIX	900	1100	1314.00	3215.00	769.00	3073.00	0.0*******		0.0	0.0**********		100	100
11	111623	FIX	900	1100	1355.00	3181.00	818.00	3040.00	0.0*******		0.0	0.0**********		100	100
11	111624	FIX	900	1100	1124.00	3105.00	608.00	2929.00	0.0*******		0.0	0.0**********		100	100
11	111625	FIX	900	1100	957.00	3309.00	402.00	3095.00	0.0*******		0.0	0.0**********		100	100
11	111626	FIX	900	1100	988.00	3179.00	460.00	2978.00	0.0*******		0.0	0.0**********		100	100
11	111627	FIX	900	1100	1205.00	3278.00	650.00	3112.00	0.0*******		0.0	0.0**********		100	100
11	111628	FIX	900	1100	1085.00	3373.00	514.00	3183.00	0.0*******		0.0	0.0**********		100	100
11	111629	FIX	900	1100	1271.00	3345.00	699.00	3187.00	0.0*******		0.0	0.0**********		100	100
11	111630	FIX	900	1100	1321.00	3357.00	745.00	3210.00	0.0*******		0.0	0.0**********		100	100
11	111631	FIX	900	1100	1205.00	3400.00	624.00	3230.00	0.0*******		0.0	0.0**********		100	100
11	111632	FIX	900	1100	1057.00	3469.00	466.00	3288.00	0.0*******		0.0	0.0**********		100	100
11	111633	FIX	900	1100	1158.00	3370.00	585.00	3192.00	0.0*******		0.0	0.0**********		100	100
11	111634	FIX	900	1100	1004.00	3616.00	383.00	3390.00	0.0*******		0.0	0.0**********		100	100
11	111635	FIX	900	1100	1320.00	3560.00	702.00	3405.00	0.0*******		0.0	0.0**********		100	100
11	111636	FIX	900	1100	1754.00	3415.00	1159.00	3350.00	0.0*******		0.0	0.0**********		100	100
11	111637	FIX	900	1100	1770.00	3335.00	1189.00	3276.00	0.0*******		0.0	0.0**********		100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE KGMY00.PAT STEP 4

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
11	111636	FIX	900	1100	2092.00	3239.00	1527.00	3246.00	0.0*******		0.0	0.0*********		100	100
11	111639	FIX	900	1100	2316.00	3288.00	1736.00	3336.00	0.0*******		0.0	0.0*********		100	100
11	111640	FIX	900	1100	2233.00	3276.00	1657.00	3308.00	0.0*******		0.0	0.0*********		100	100
11	111641	FIX	900	1100	2197.00	3200.00	1638.00	3229.00	0.0*******		0.0	0.0*********		100	100
11	111642	FIX	900	1100	1986.00	2049.00	1663.00	2072.00	0.0*******		0.0	0.0*********		100	100
11	111643	FIX	900	1100	1847.00	2003.00	1537.00	1997.00	0.0*******		0.0	0.0*********		100	100
11	111644	FIX	900	1100	1842.00	2130.00	1505.00	2125.00	0.0*******		0.0	0.0*********		100	100
11	111645	FIX	900	1100	1624.00	1999.00	1320.00	1950.00	0.0*******		0.0	0.0*********		100	100
11	111646	FIX	900	1100	1404.00	2130.00	1080.00	2038.00	0.0*******		0.0	0.0*********		100	100
11	111647	FIX	900	1100	1287.00	2109.00	970.00	1994.00	0.0*******		0.0	0.0*********		100	100
11	111648	FIX	900	1100	1399.00	2063.00	1088.00	1970.00	0.0*******		0.0	0.0*********		100	100
11	111649	FIX	900	1100	1403.00	2341.00	1037.00	2240.00	0.0*******		0.0	0.0*********		100	100
11	111650	FIX	900	1100	1563.00	2274.00	1204.00	2209.00	0.0*******		0.0	0.0*********		100	100
11	111651	FIX	900	1100	1595.00	2349.00	1221.00	2280.00	0.0*******		0.0	0.0*********		100	100
11	111652	FIX	900	1100	2051.00	2456.00	1644.00	2477.00	0.0*******		0.0	0.0*********		100	100
11	111653	FIX	900	1100	2209.00	2384.00	1813.00	2438.00	0.0*******		0.0	0.0*********		100	100
11	111654	FIX	900	1100	2173.00	2334.00	1789.00	2384.00	0.0*******		0.0	0.0*********		100	100
11	111655	FIX	900	1100	2337.00	2139.00	1987.00	2230.00	0.0*******		0.0	0.0*********		100	100
11	111656	FIX	900	1100	2167.00	2227.00	1803.00	2280.00	0.0*******		0.0	0.0*********		100	100
11	111657	FIX	900	1100	2303.00	2252.00	1932.00	2332.00	0.0*******		0.0	0.0*********		100	100
11	111658	FIX	900	1100	2304.00	1946.00	1995.00	2034.00	0.0*******		0.0	0.0*********		100	100
11	111659	FIX	900	1100	2259.00	1989.00	1942.00	2008.00	0.0*******		0.0	0.0*********		100	100
11	111660	FIX	900	1100	2145.00	1879.00	1852.00	1935.00	0.0*******		0.0	0.0*********		100	100
11	111661	FIX	900	1100	2490.00	1986.00	2169.00	2110.00	0.0*******		0.0	0.0*********		100	100
11	111662	FIX	900	1100	2354.00	2051.00	2022.00	2147.00	0.0*******		0.0	0.0*********		100	100
11	111663	FIX	900	1100	2457.00	1854.00	2162.00	1970.00	0.0*******		0.0	0.0*********		100	100
11	111664	FIX	900	1100	1025.00	1476.00	849.00	1520.00	0.0*******		0.0	0.0*********		100	100
11	111665	FIX	900	1100	977.00	1697.00	758.00	1526.00	0.0*******		0.0	0.0*********		100	100
11	111666	FIX	900	1100	813.00	1888.00	563.00	1686.00	0.0*******		0.0	0.0*********		100	100
11	111667	FIX	900	1100	987.00	1907.00	724.00	1734.00	0.0*******		0.0	0.0*********		100	100
11	111668	FIX	900	1100	733.00	1992.00	466.00	1787.00	0.0*******		0.0	0.0*********		100	100
11	111669	FIX	900	1100	1224.00	937.00	1149.00	837.00	0.0*******		0.0	0.0*********		100	100
11	111670	FIX	900	1100	1507.00	587.00	1490.00	537.00	0.0*******		0.0	0.0*********		100	100
11	111671	FIX	900	1100	1567.00	617.00	1543.00	597.00	0.0*******		0.0	0.0*********		100	100
11	12	1	MOVE	900	1100	2883.31	9.06	2951.44	250.55	60.5	60.7	1.2	2.2	-0.1	100	100
11	12	2	MOVE	900	1100	2902.71	103.12	2951.51	354.44	58.6	58.7	1.1	1.9	-0.1	100	100
11	12	3	MOVE	900	1100	2921.51	197.80	2951.59	451.32	62.2	62.2	0.2	0.6	0.0	100	100
11	12	4	MOVE	900	1100	2941.13	293.86	2951.68	547.17	69.5	69.5	0.4	0.9	-0.1	100	100
11	12	5	MOVE	900	1100	2961.10	391.04	2952.10	644.05	61.6	61.9	0.6	1.2	-0.2	100	100
11	12	6	MOVE	900	1100	2980.97	488.06	2952.33	740.06	58.2	58.2	0.8	1.5	-0.0	100	100
11	12	7	MOVE	900	1100	3000.62	584.00	2952.45	836.53	63.4	63.2	1.1	1.6	0.1	100	100
11	12	8	MOVE	900	1100	3020.49	680.31	2952.48	933.51	56.1	56.0	1.1	1.5	0.1	100	100
11	12	9	MOVE	900	1100	3039.95	775.67	2952.54	1030.45	60.3	60.3	0.8	1.8	0.0	100	100
11	12	10	MOVE	900	1100	3060.79	868.95	2952.64	1126.36	62.0	61.9	2.1	1.0	0.1	100	100
11	12	11	MOVE	900	1100	3082.07	963.51	2952.85	1223.27	61.1	61.1	3.4	0.4	-0.0	100	100
11	12	12	MOVE	900	1100	3102.63	1058.15	2953.30	1319.86	61.7	61.8	3.8	0.3	-0.2	100	100

CASE KGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
11	12	13	MOVE	900	1100	3121.79	1151.99	2953.41	1413.63	59.1	59.5	3.4	0.1	-0.4	100	100
11	12	14	MOVE	900	1100	3140.84	1246.87	2953.49	1512.38	63.6	63.7	2.6	-0.2	-0.0	100	100
11	12	15	MOVE	900	1100	3159.89	1341.76	2953.57	1609.52	60.3	60.5	1.8	-0.5	-0.1	100	100
11	12	16	MOVE	900	1100	3178.96	1436.63	2953.70	1706.45	68.4	68.2	0.9	-0.8	-0.1	100	100
11	12	17	MOVE	900	1100	3197.84	1530.52	2953.88	1804.37	65.2	65.7	0.1	-1.1	-0.5	100	100
11	12	18	MOVE	900	1100	3217.52	1625.46	2954.39	1899.32	58.1	58.1	-0.5	-1.2	0.0	100	100
11	12	19	MOVE	900	1100	3237.50	1719.60	2954.47	1995.20	58.4	58.2	0.1	-1.0	0.2	100	100
11	12	20	MOVE	900	1100	3257.98	1814.71	2954.56	2091.70	57.7	57.5	1.3	-0.4	0.2	100	100
11	12	21	MOVE	900	1100	3278.49	1909.98	2954.66	2188.56	68.5	68.4	2.4	0.0	0.1	100	100
11	12	22	MOVE	900	1100	3298.48	2004.32	2954.72	2284.52	63.9	63.9	3.2	0.4	-0.0	100	100
11	12	23	MOVE	900	1100	3318.85	2099.26	2955.34	2381.43	63.6	63.7	3.6	0.5	-0.1	100	100
11	12	24	MOVE	900	1100	3338.78	2194.04	2955.46	2478.38	62.6	62.8	4.1	0.3	-0.2	100	100
11	12	25	MOVE	900	1100	3357.69	2288.49	2955.54	2574.29	63.2	63.2	3.8	0.6	-0.1	100	100
11	12	26	MOVE	900	1100	3376.87	2384.16	2955.73	2671.04	63.0	62.7	3.3	0.7	-0.3	100	100
11	12	27	MOVE	900	1100	3396.01	2479.96	2955.77	2767.76	62.8	62.7	2.9	0.6	-0.2	100	100
11	12	28	MOVE	900	1100	3414.27	2575.30	2956.40	2863.59	61.3	61.3	1.1	0.7	-0.2	100	100
11	12	29	MOVE	900	1100	3432.32	2671.78	2956.48	2960.23	63.6	63.5	-0.5	1.1	-0.2	100	100
11	12	30	MOVE	900	1100	3452.37	2767.75	2956.55	3057.45	52.0	52.2	-1.2	1.5	-0.2	100	100
11	12	31	MOVE	900	1100	3473.43	2864.03	2956.66	3154.38	63.8	63.5	-1.2	0.8	-0.3	100	100
11	12	60	MOVE	900	1100	3427.98	2921.40	2900.50	3200.50	61.2	61.3	-1.5	-0.9	-0.2	100	100
11	12	61	MOVE	900	1100	3407.91	2824.85	2900.50	3103.50	62.8	62.8	-0.6	1.0	-0.2	100	100
11	12	62	MOVE	900	1100	3387.83	2728.49	2900.50	3006.50	61.1	61.0	0.1	1.0	-0.1	100	100
11	12	63	MOVE	900	1100	3368.50	2632.36	2900.50	2909.50	51.4	51.4	0.9	1.5	-0.0	100	100
11	12	64	MOVE	900	1100	3350.18	2535.95	2900.50	2812.50	55.2	55.4	2.2	1.3	-0.2	100	100
11	12	65	MOVE	900	1100	3331.65	2441.00	2900.50	2716.50	62.5	62.1	3.1	1.5	-0.4	100	100
11	12	66	MOVE	900	1100	3312.38	2344.76	2900.50	2619.50	60.2	60.1	3.4	1.4	-0.1	100	100
11	12	67	MOVE	900	1100	3293.33	2249.12	2900.50	2522.50	52.4	52.5	3.8	1.2	-0.1	100	100
11	12	68	MOVE	900	1100	3274.16	2153.79	2900.50	2425.50	64.0	64.0	4.0	1.2	-0.0	100	100
11	12	69	MOVE	900	1100	3254.87	2059.69	2900.50	2329.50	63.9	64.2	3.8	0.9	-0.3	100	100
11	12	70	MOVE	900	1100	3235.52	1964.34	2900.50	2232.50	57.1	57.0	3.8	0.6	-0.2	100	100
11	12	71	MOVE	900	1100	3215.68	1869.10	2900.50	2135.50	61.9	62.1	3.3	0.3	-0.2	100	100
11	12	72	MOVE	900	1100	3195.78	1773.61	2900.50	2038.50	64.7	65.0	2.7	-0.1	-0.3	100	100
11	12	73	MOVE	900	1100	3175.94	1678.45	2900.50	1941.50	66.8	66.7	2.3	-0.4	-0.1	100	100
11	12	74	MOVE	900	1100	3156.52	1584.29	2900.50	1845.50	54.8	54.8	2.3	-0.5	-0.1	100	100
11	12	75	MOVE	900	1100	3137.14	1489.20	2900.50	1748.50	64.5	64.5	2.7	-0.3	-0.1	100	100
11	12	76	MOVE	900	1100	3118.06	1394.03	2900.50	1651.50	67.7	67.7	3.4	-0.2	-0.1	100	100
11	12	77	MOVE	900	1100	3098.75	1298.92	2900.50	1554.50	64.1	64.0	3.9	-0.1	-0.1	100	100
11	12	78	MOVE	900	1100	3079.63	1204.72	2900.50	1458.50	57.0	56.3	4.3	-0.0	0.7	100	100
11	12	79	MOVE	900	1100	3060.23	1109.43	2900.50	1361.50	61.1	60.6	4.7	-0.1	0.6	100	100
11	12	80	MOVE	900	1100	3040.57	1014.30	2900.50	1264.50	63.6	63.2	4.8	0.1	0.3	100	100
11	12	81	MOVE	900	1100	3020.24	919.03	2900.50	1167.50	62.7	62.6	4.3	0.0	0.1	100	100
11	12	82	MOVE	900	1100	2999.45	824.00	2900.50	1070.50	65.6	65.6	3.2	0.3	-0.0	100	100
11	12	83	MOVE	900	1100	2979.67	729.97	2900.50	974.50	60.6	60.5	2.5	-0.3	0.1	100	100
11	12	84	MOVE	900	1100	2959.43	633.44	2900.50	877.50	13.0	12.2	2.3	-0.5	0.9	100	100
11	12	85	MOVE	900	1100	2939.33	536.80	2900.50	780.50	57.3	57.4	2.0	0.1	-0.1	100	100
11	12	86	MOVE	900	1100	2919.44	439.72	2900.50	683.50	63.5	63.5	1.6	0.1	-0.0	100	100

CASE KOM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
11	12	87	MOVE	900	1100	2899.64	343.76	2900.50	587.50	67.8	67.7	1.1	0.2	0.0	100	100
11	12	88	MOVE	900	1100	2879.64	246.79	2900.50	490.50	65.2	65.2	0.5	0.4	-0.0	100	100
11	12	89	MOVE	900	1100	2860.02	150.96	2900.50	393.50	66.1	66.0	0.5	0.9	0.1	100	100
11	12	90	MOVE	900	1100	2840.59	55.77	2900.50	298.50	67.8	67.9	0.8	1.4	-0.1	100	100
11	12	91	MOVE	900	1100	2821.10	-38.67	2900.50	200.50	59.4	59.4	0.8	1.5	0.0	100	100
11	13	22	MOVE	900	1100	519.36	2715.46	100.50	2429.50	56.1	55.8	-9.1	-1.3	0.4	100	100
11	13	25	MOVE	900	1100	582.08	3001.85	100.50	2715.50	54.4	55.3	-8.0	-2.7	-0.9	100	100
11	13	26	MOVE	900	1100	602.70	3097.70	100.50	2810.50	59.5	61.4	-7.1	-2.5	-1.9	100	100
11	13	27	MOVE	900	1100	622.98	3192.84	100.50	2913.50	60.0	65.3	-5.3	-1.7	-5.3	100	100
11	13	28	MOVE	900	1100	642.94	3286.61	100.50	3009.50	61.1	64.5	-4.6	-0.8	-1.4	100	100
11	13	29	MOVE	900	1100	664.34	3382.03	100.50	3106.50	58.5	58.3	-3.6	-0.1	0.2	100	100
11	13	30	MOVE	900	1100	684.93	3478.74	100.50	3203.50	54.4	68.9	-2.8	-0.3	-14.5	100	100
11	13	32	MOVE	900	1100	798.99	3551.55	196.50	3296.50	64.3	66.6	-1.0	0.2	-2.3	100	100
11	13	33	MOVE	900	1100	893.18	3529.26	293.50	3293.50	54.2	55.1	-0.5	0.5	-0.9	100	100
11	13	34	MOVE	900	1100	986.53	3506.48	389.50	3289.50	51.4	52.6	-0.2	0.7	-1.1	100	100
11	13	35	MOVE	900	1100	1080.94	3483.73	486.50	3286.50	55.1	61.9	0.1	1.5	-6.8	100	100
11	13	37	MOVE	900	1100	1269.71	3439.14	679.50	3279.50	54.8	49.1	-0.8	-0.1	5.6	100	100
11	13	38	MOVE	900	1100	1362.07	3420.87	775.50	3275.50	50.7	52.7	-2.0	3.7	-2.0	100	100
11	13	39	MOVE	900	1100	1457.48	3395.25	872.50	3272.50	48.6	48.0	-0.7	-0.0	0.7	100	100
11	13	40	MOVE	900	1100	1551.01	3372.07	968.50	3268.50	61.5	58.8	-0.0	-0.5	2.6	100	100
11	13	42	MOVE	900	1100	1739.33	3327.33	1162.50	3262.50	50.7	45.5	-0.4	-0.2	11.2	100	100
11	13	43	MOVE	900	1100	1832.14	3304.79	1258.50	3259.50	53.6	60.3	-0.6	0.6	-6.7	100	100
11	13	44	MOVE	900	1100	1926.47	3282.83	1355.50	3255.50	53.0	56.1	-0.2	0.7	-3.1	100	100
11	13	45	MOVE	900	1100	2019.57	3259.93	1451.50	3251.50	50.4	47.5	-0.1	0.6	2.9	100	100
11	13	46	MOVE	900	1100	2113.82	3237.94	1548.50	3248.50	56.0	49.5	-0.2	0.7	6.5	100	100
11	13	47	MOVE	900	1100	2207.13	3214.99	1644.50	3244.50	55.4	51.3	-0.1	0.6	4.1	100	100
11	13	48	MOVE	900	1100	2301.53	3192.73	1741.50	3241.50	56.9	47.8	-0.1	0.3	9.1	100	100
11	13	49	MOVE	900	1100	2394.40	3170.29	1837.50	3237.50	55.9	45.7	-0.4	0.5	10.1	100	100
11	13	50	MOVE	900	1100	2488.24	3148.49	1934.50	3234.50	51.2	43.7	-0.9	0.5	7.5	100	100
11	13	51	MOVE	900	1100	2582.42	3125.93	2031.50	3231.50	48.7	47.9	-0.9	-0.0	0.8	100	100
11	13	52	MOVE	900	1100	2675.40	3102.50	2127.50	3227.50	55.4	59.3	-0.9	-0.3	-4.0	100	100
11	13	53	MOVE	900	1100	2769.64	3079.54	2224.50	3224.50	54.7	54.5	-1.0	-1.0	0.1	100	100
11	13	54	MOVE	900	1100	2862.71	3056.39	2320.50	3220.50	55.9	60.4	-1.1	-1.1	-4.5	100	100
11	13	55	MOVE	900	1100	2957.25	3034.32	2417.50	3217.50	56.2	54.0	-1.1	-1.0	4.2	100	100
11	13	56	MOVE	900	1100	3050.26	3011.08	2513.50	3213.50	52.9	56.9	-1.5	-1.2	-4.0	100	100
11	13	81	MOVE	900	1100	2997.27	3055.06	2452.44	3242.24	49.8	49.9	-1.5	-1.2	-0.1	100	100
11	13	82	MOVE	900	1100	2978.33	2958.51	2453.52	3148.34	55.6	53.2	-0.6	-0.6	2.4	100	100
11	13	83	MOVE	900	1100	2960.33	2862.68	2455.53	3052.47	54.4	58.8	-0.6	0.1	-4.4	100	100
11	13	84	MOVE	900	1100	2942.00	2766.18	2456.56	2955.64	49.1	54.5	-0.4	0.4	-5.4	100	100
11	13	85	MOVE	900	1100	2924.06	2669.90	2458.42	2858.22	54.7	53.9	-0.5	0.6	0.8	100	100
11	13	86	MOVE	900	1100	2905.86	2574.15	2459.56	2762.38	57.1	60.3	-0.5	0.1	-3.2	100	100
11	13	87	MOVE	900	1100	2886.10	2478.82	2461.31	2666.20	55.1	52.0	-0.6	0.3	3.0	100	100
11	13	88	MOVE	900	1100	2869.99	2382.82	2462.61	2569.29	55.0	54.0	-0.7	0.2	1.0	100	100
11	13	89	MOVE	900	1100	2852.06	2286.57	2464.43	2472.29	55.3	54.8	-0.8	0.3	0.6	100	100
11	13	90	MOVE	900	1100	2834.18	2190.41	2466.28	2375.10	53.4	54.7	-1.0	0.6	-1.3	100	100
11	13	91	MOVE	900	1100	2816.15	2095.54	2467.30	2280.37	57.8	64.8	-0.8	1.0	-7.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE KGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
11	13	92	MOVE	900	1100	2722.22	2119.25	2370.36	2284.22	58.7	60.4	-1.0	1.2	-1.7	100	100
11	13	94	MOVE	900	1100	2534.95	2169.56	2176.53	2295.66	56.9	53.4	-0.6	0.9	3.5	100	100
11	13	95	MOVE	900	1100	2441.21	2194.20	2079.53	2301.43	60.3	52.2	-0.7	1.3	8.1	100	100
11	13	96	MOVE	900	1100	2348.27	2219.06	1983.42	2307.36	56.6	47.2	-0.7	1.5	9.4	100	100
11	13	97	MOVE	900	1100	2254.09	2244.14	1886.49	2312.66	44.7	45.2	-0.6	1.4	-0.5	100	100
11	13	98	MOVE	900	1100	2160.74	2269.53	1789.67	2318.99	53.3	53.3	-0.3	0.7	-0.1	100	100
11	13	99	MOVE	900	1100	2066.94	2294.49	1692.57	2324.33	55.7	51.9	-0.6	0.7	3.8	100	100
11	13	100	MOVE	900	1100	1973.82	2319.53	1596.56	2330.43	64.9	65.2	-0.6	0.6	-0.3	100	100
11	13	101	MOVE	900	1100	1879.36	2343.05	1499.58	2334.52	56.5	56.3	-0.3	0.9	0.2	100	100
11	13	103	MOVE	900	1100	1692.73	2392.52	1307.48	2340.50	58.2	61.3	-0.6	0.8	-3.1	100	100
11	13	104	MOVE	900	1100	1598.18	2417.65	1209.92	2352.26	60.0	62.6	-0.1	0.4	-2.6	100	100
11	13	105	MOVE	900	1100	1505.54	2442.44	1115.48	2358.52	60.6	66.0	-0.5	0.0	-5.4	100	100
11	13	106	MOVE	900	1100	1411.01	2466.70	1018.59	2363.68	53.8	54.7	-0.2	0.3	-0.9	100	100
11	13	107	MOVE	900	1100	1317.89	2490.93	923.47	2369.55	57.3	59.4	-0.3	0.4	-2.2	100	100
11	13	108	MOVE	900	1100	1223.44	2515.23	826.61	2375.45	55.3	52.3	-0.1	0.4	1.0	100	100
11	13	109	MOVE	900	1100	1130.71	2539.17	732.55	2380.79	59.7	66.5	-0.6	0.5	-6.7	100	100
11	13	110	MOVE	900	1100	1036.57	2564.06	636.63	2386.85	61.4	67.0	-0.7	0.0	-5.6	100	100
11	13	111	MOVE	900	1100	943.80	2590.02	541.23	2391.80	57.2	61.1	-2.3	-2.1	-3.9	100	100
11	13	112	MOVE	900	1100	852.55	2615.83	446.62	2397.66	59.1	58.2	-4.3	-3.2	0.9	100	100
11	13	113	MOVE	900	1100	760.28	2640.32	351.43	2403.71	59.8	61.4	-6.3	-3.8	-1.5	100	100
11	13	114	MOVE	900	1100	668.39	2664.70	256.58	2410.16	59.1	64.8	-7.6	-2.8	-5.7	100	100
11	13	115	MOVE	900	1100	575.90	2689.02	161.47	2415.79	56.8	53.9	-8.6	-1.7	2.9	100	100
11	13	116	MOVE	900	1100	484.89	2715.01	66.80	2422.32	60.3	62.5	-8.9	-1.4	-2.2	100	100
11	14	1	MOVE	900	1100	2878.77	2141.73	2519.49	2238.13	51.5	47.9	-0.5	0.2	3.7	100	100
11	14	2	MOVE	900	1100	2896.94	2236.69	2518.48	2433.63	60.4	61.3	-0.6	0.2	-0.8	100	100
11	14	3	MOVE	900	1100	2914.93	2332.85	2516.57	2530.59	58.8	61.5	-0.4	-0.1	-2.7	100	100
11	14	4	MOVE	900	1100	2932.92	2427.87	2515.09	2626.42	51.3	50.7	-0.3	-0.2	0.7	100	100
11	14	5	MOVE	900	1100	2951.08	2523.96	2513.60	2723.39	52.2	55.4	-0.1	-0.3	-3.2	100	100
11	14	6	MOVE	900	1100	2969.44	2620.03	2512.48	2820.38	56.9	52.5	-0.2	-0.5	4.3	100	100
11	14	7	MOVE	900	1100	2987.51	2714.30	2511.46	2914.08	24.0	28.8	-0.2	0.2	-4.8	100	100
11	14	8	MOVE	900	1100	3005.64	2811.20	2509.61	3012.05	42.6	45.1	-0.1	-0.6	-2.4	100	100
11	14	9	MOVE	900	1100	3024.28	2908.31	2508.54	3109.89	55.6	59.0	-0.5	-1.0	-3.4	100	100
11	14	10	MOVE	900	1100	3042.79	3004.10	2507.16	3205.43	49.1	52.3	-1.0	-1.3	-3.2	100	100
11	14	11	MOVE	900	1100	3061.93	3100.31	2506.08	3302.48	52.3	55.6	-2.0	-2.7	-3.3	100	100
11	14	14	MOVE	900	1100	3121.27	3386.35	2509.43	3597.40	58.0	68.1	-7.5	-7.6	-10.1	100	100
11	14	56	MOVE	900	1100	3050.85	3010.51	2513.50	3213.50	52.9	56.9	-1.0	-1.7	-4.0	100	100
11	14	57	MOVE	900	1100	3144.13	2986.98	2610.50	3210.50	58.8	60.2	-2.6	-2.9	-1.4	100	100
11	14	58	MOVE	900	1100	3239.29	2964.23	2706.50	3206.50	49.6	56.7	-1.0	-2.5	-7.1	100	100
11	14	59	MOVE	900	1100	3333.72	2941.59	2803.50	3203.50	54.7	56.4	-1.1	-2.9	-1.7	100	100
11	14	60	MOVE	900	1100	3428.23	2919.37	2900.50	3200.50	55.8	61.3	-1.2	-2.9	-5.5	100	100
11	14	61	MOVE	900	1100	3408.10	2822.24	2900.50	3103.50	57.3	62.8	-0.4	-2.6	-5.5	100	100
11	14	62	MOVE	900	1100	3387.55	2725.77	2900.50	3000.50	56.9	61.0	-0.2	-1.7	-4.1	100	100
11	14	63	MOVE	900	1100	3367.77	2629.96	2900.50	2900.50	52.2	51.4	0.2	-0.9	0.8	100	100
11	14	64	MOVE	900	1100	3347.99	2534.22	2900.50	2800.50	50.0	55.4	0.0	-0.5	0.6	100	100
11	14	65	MOVE	900	1100	3328.29	2439.30	2900.50	2710.50	58.7	62.1	-0.3	-0.2	-3.5	100	100
11	14	66	MOVE	900	1100	3308.73	2343.35	2900.50	2619.50	57.0	60.1	-0.2	-0.0	-3.0	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE RUN900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
11	14	67	MOVE	900	1100	3289.37	2248.03	2900.50	2522.50	48.2	52.5	-0.2	0.1	-4.3	100	100
11	14	68	MOVE	900	1100	3269.69	2152.66	2900.50	2425.50	54.9	64.0	-0.5	-0.2	-9.1	100	100
11	14	69	MOVE	900	1100	3250.51	2058.18	2900.50	2329.50	61.3	64.2	-0.5	-0.6	-2.9	100	100
11	14	70	MOVE	900	1100	3230.87	1962.79	2900.50	2232.50	54.2	57.0	-0.9	-1.0	-2.8	100	100
11	14	116	MOVE	900	1100	3252.35	2043.78	2904.67	2315.94	53.6	56.5	-0.1	-0.9	-2.9	100	100
11	14	117	MOVE	900	1100	3159.13	2067.99	2809.39	2321.54	57.9	66.9	-0.8	-0.5	-9.0	100	100
11	14	118	MOVE	900	1100	3065.58	2092.17	2712.55	2327.30	61.6	59.6	-0.3	0.1	2.0	100	100
11	14	119	MOVE	900	1100	2971.58	2117.05	2615.60	2333.03	55.7	57.2	-0.3	0.1	-1.5	100	100
12	11	1	MOVE	3700	400	83.31	709.06	100.50	900.50	60.7	60.5	-1.2	-2.2	0.1	100	100
12	11	2	MOVE	3700	400	102.71	803.12	100.50	996.50	58.7	58.6	-1.1	-1.9	0.1	100	100
12	11	3	MOVE	3700	400	121.51	897.80	100.50	993.50	62.2	62.2	-0.2	-0.6	-0.0	100	100
12	11	4	MOVE	3700	400	141.13	993.86	100.50	989.50	69.5	69.5	-0.4	-0.9	0.1	100	100
12	11	5	MOVE	3700	400	161.10	1091.04	100.50	988.50	61.9	61.6	-0.6	-1.2	0.2	100	100
12	11	6	MOVE	3700	400	180.97	1188.06	100.50	983.50	58.2	58.2	-0.8	-1.5	0.0	100	100
12	11	7	MOVE	3700	400	200.62	1284.00	100.50	979.50	63.2	63.4	-1.1	-1.6	-0.1	100	100
12	11	8	MOVE	3700	400	220.49	1380.31	100.50	1070.50	56.0	56.1	-1.1	-1.5	-0.1	100	100
12	11	9	MOVE	3700	400	239.95	1475.67	100.50	1173.50	60.3	60.3	-0.8	-1.8	-0.0	100	100
12	11	10	MOVE	3700	400	260.79	1568.95	100.50	1269.50	61.9	62.0	-2.1	-1.0	-0.1	100	100
12	11	11	MOVE	3700	400	282.07	1663.51	100.50	1360.50	61.1	61.1	-3.4	-0.4	0.0	100	100
12	11	12	MOVE	3700	400	302.63	1758.15	100.50	1460.50	61.8	61.7	-3.8	-0.3	0.2	100	100
12	11	13	MOVE	3700	400	321.79	1851.99	100.50	1559.50	59.5	59.1	-3.4	-0.1	0.4	100	100
12	11	14	MOVE	3700	400	340.84	1946.87	100.50	1660.50	63.7	63.6	-2.6	0.2	0.0	100	100
12	11	15	MOVE	3700	400	359.89	2041.76	100.50	1753.50	60.5	60.3	-1.8	0.5	0.1	100	100
12	11	16	MOVE	3700	400	378.96	2136.63	100.50	1850.50	68.2	68.4	-0.9	0.8	-0.1	100	100
12	11	17	MOVE	3700	400	397.84	2230.52	100.50	1946.50	65.7	65.2	-0.1	1.1	0.5	100	100
12	11	18	MOVE	3700	400	417.52	2325.46	100.50	2043.50	58.1	58.1	0.5	1.2	-0.0	100	100
12	11	19	MOVE	3700	400	437.50	2419.60	100.50	2139.50	58.2	58.4	-0.1	1.0	-0.2	100	100
12	11	20	MOVE	3700	400	457.98	2514.71	100.50	2236.50	57.5	57.7	-1.3	0.4	-0.2	100	100
12	11	21	MOVE	3700	400	478.49	2609.98	100.50	2333.50	60.4	60.5	-2.4	-0.0	-0.1	100	100
12	11	22	MOVE	3700	400	498.48	2704.32	100.50	2429.50	63.9	63.9	-3.2	-0.4	0.1	100	100
12	11	23	MOVE	3700	400	518.85	2799.26	100.50	2526.50	63.7	63.6	-3.6	-0.5	0.2	100	100
12	11	24	MOVE	3700	400	538.78	2894.04	100.50	2623.50	62.8	62.6	-4.1	-0.3	0.1	100	100
12	11	25	MOVE	3700	400	557.69	2988.49	100.50	2719.50	63.2	63.2	-3.8	-0.6	0.0	100	100
12	11	26	MOVE	3700	400	576.87	3084.16	100.50	2816.50	62.7	63.0	-3.3	-0.7	-0.3	100	100
12	11	27	MOVE	3700	400	596.01	3179.96	100.50	2913.50	62.7	62.8	-2.9	-0.6	-0.2	100	100
12	11	28	MOVE	3700	400	614.27	3275.30	100.50	3009.50	61.3	61.3	-1.1	-1.1	-0.1	100	100
12	11	29	MOVE	3700	400	632.32	3371.78	100.50	3106.50	63.5	63.6	0.5	-1.5	-0.0	100	100
12	11	30	MOVE	3700	400	652.37	3467.75	100.50	3203.50	52.2	52.0	1.2	-0.3	0.2	100	100
12	11	31	MOVE	3700	400	673.43	3564.03	100.50	3300.50	63.5	63.8	1.2	0.8	-0.3	100	100
12	11	60	MOVE	3700	400	627.98	3621.40	43.82	3340.76	61.3	61.2	1.5	0.9	0.2	100	100
12	11	61	MOVE	3700	400	607.91	3524.85	44.44	3249.59	62.8	62.8	0.6	-0.1	0.0	100	100
12	11	62	MOVE	3700	400	587.83	3428.49	44.49	3157.21	61.0	61.1	-0.1	-1.0	-0.1	100	100
12	11	63	MOVE	3700	400	568.50	3332.36	44.57	3065.45	51.4	51.4	-0.9	-1.5	-0.0	100	100
12	11	64	MOVE	3700	400	550.18	3235.95	44.68	2968.36	55.4	55.2	-2.2	-1.3	0.2	100	100
12	11	65	MOVE	3700	400	531.65	3141.00	45.50	2872.50	62.1	62.5	-3.1	-1.5	-0.4	100	100
12	11	66	MOVE	3700	400	512.38	3044.76	45.41	2776.79	60.1	60.2	-3.4	-1.4	-0.1	100	100

CASE KOM500.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
12	11	67	MOVE	3700	400	493.33	2949.12	45.52	2967.62	52.5	52.4	-3.8	-1.2	0.1	100	100
12	11	68	MOVE	3700	400	474.16	2853.79	45.60	2570.54	64.0	64.0	-4.0	-1.0	0.0	100	100
12	11	69	MOVE	3700	400	454.87	2759.69	45.71	2474.48	64.2	63.9	-3.8	-0.9	0.3	100	100
12	11	70	MOVE	3700	400	435.52	2664.34	46.34	2377.37	57.0	57.1	-3.8	-0.6	-0.1	100	100
12	11	71	MOVE	3700	400	415.68	2569.10	46.43	2280.29	62.1	61.9	-3.3	-0.3	0.2	100	100
12	11	72	MOVE	3700	400	395.78	2473.61	46.55	2182.80	65.0	64.7	-2.7	-0.1	0.3	100	100
12	11	73	MOVE	3700	400	375.94	2378.45	46.62	2085.69	66.7	66.8	-2.3	-0.4	-0.1	100	100
12	11	74	MOVE	3700	400	356.52	2284.29	46.81	1987.80	54.8	54.8	-2.3	-0.5	-0.1	100	100
12	11	75	MOVE	3700	400	337.14	2189.20	46.77	1892.51	64.5	64.5	-2.7	-0.3	0.1	100	100
12	11	76	MOVE	3700	400	318.08	2094.03	47.44	1792.45	67.7	67.7	-3.4	-0.2	0.1	100	100
12	11	77	MOVE	3700	400	298.75	1998.92	47.51	1698.20	64.0	64.1	-3.9	-0.1	-0.1	100	100
12	11	78	MOVE	3700	400	279.63	1904.72	47.61	1602.15	56.3	57.0	-4.3	-0.0	-0.7	100	100
12	11	79	MOVE	3700	400	260.23	1809.43	47.73	1504.72	60.6	61.1	-4.7	-0.1	-0.6	100	100
12	11	80	MOVE	3700	400	240.57	1714.30	47.76	1407.64	62.2	63.6	-4.8	-0.1	-0.3	100	100
12	11	81	MOVE	3700	400	220.24	1619.03	48.42	1310.34	62.6	62.7	-4.3	-0.0	-0.1	100	100
12	11	82	MOVE	3700	400	199.45	1524.00	48.47	1213.48	65.8	65.6	-3.2	-0.3	-0.1	100	100
12	11	83	MOVE	3700	400	179.67	1429.97	48.56	1117.40	60.5	60.6	-2.5	-0.5	-0.1	100	100
12	11	84	MOVE	3700	400	159.43	1333.44	48.56	1019.75	12.2	13.0	-2.3	-0.5	-0.9	100	100
12	11	85	MOVE	3700	400	139.33	1236.80	48.82	922.44	57.4	57.3	-2.0	-0.1	0.1	100	100
12	11	86	MOVE	3700	400	119.44	1139.72	49.31	825.85	63.5	63.5	-1.6	-0.1	0.0	100	100
12	11	87	MOVE	3700	400	99.64	1043.76	49.40	729.58	67.7	67.8	-1.1	-0.2	-0.0	100	100
12	11	88	MOVE	3700	400	79.64	946.79	49.50	632.51	65.2	65.2	-0.5	-0.4	-0.0	100	100
12	11	89	MOVE	3700	400	60.02	850.96	49.53	535.44	66.0	66.1	-0.5	-0.9	-0.1	100	100
12	11	90	MOVE	3700	400	40.59	755.77	49.64	438.30	67.9	67.8	-0.8	-1.4	0.1	100	100
12	11	91	MOVE	3700	400	21.10	661.33	49.83	342.03	59.4	59.4	-0.8	-1.5	-0.0	100	100
12	12	504	FIX	3700	400	200.50	837.50	185.49	541.91	116.7*******		0.0		0.0**********	100	100
12	12	506	FIX	3700	400	200.50	1262.50	104.15	956.71	60.1*******		0.0		0.0**********	100	100
12	12	507	FIX	3700	400	200.50	1475.50	61.05	1162.58	110.5*******		0.0		0.0**********	100	100
12	12	508	FIX	3700	400	200.50	1687.50	7.35	1372.11	109.4*******		0.0		0.0**********	100	100
12	12	520	FIX	3700	400	600.50	700.50	610.10	993.02	97.2*******		0.0		0.0**********	100	100
12	12	521	FIX	3700	400	625.50	787.50	616.85	879.99	97.8*******		0.0		0.0**********	100	100
12	12	522	FIX	3700	400	650.50	875.50	623.90	766.63	107.4*******		0.0		0.0**********	100	100
12	12	523	FIX	3700	400	412.50	1262.50	311.85	999.77	113.0*******		0.0		0.0**********	100	100
12	12	524	FIX	3700	400	700.50	1050.50	637.32	847.44	123.1*******		0.0		0.0**********	100	100
12	12	525	FIX	3700	400	725.50	1137.50	644.48	937.32	109.5*******		0.0		0.0**********	100	100
12	12	526	FIX	3700	400	750.50	1225.50	650.94	1029.55	102.4*******		0.0		0.0**********	100	100
12	12	528	FIX	3700	400	412.50	2325.50	96.47	2049.23	100.2*******		0.0		0.0**********	100	100
12	12	530	FIX	3700	400	412.50	2750.50	1.48	2454.82	39.8*******		0.0		0.0**********	100	100
12	12	532	FIX	3700	400	612.50	1175.50	525.84	933.40	109.9*******		0.0		0.0**********	100	100
12	12	533	FIX	3700	400	487.50	1025.50	433.50	784.15	112.5*******		0.0		0.0**********	100	100
12	12	539	FIX	3700	400	625.50	1050.50	563.55	833.84	116.6*******		0.0		0.0**********	100	100
12	12	542	FIX	3700	400	625.50	1687.50	434.80	1457.79	97.9*******		0.0		0.0**********	100	100
12	12	543	FIX	3700	400	625.50	1900.50	392.41	1667.21	111.0*******		0.0		0.0**********	100	100
12	12	545	FIX	3700	400	625.50	2325.50	303.49	2083.97	110.2*******		0.0		0.0**********	100	100
12	12	546	FIX	3700	400	625.50	2962.50	167.42	2700.06	111.6*******		0.0		0.0**********	100	100
12	12	550	FIX	3700	400	625.50	3387.50	94.05	3117.99	99.9*******		0.0		0.0**********	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE KOM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
12	12	551	FIX	3700	400	625.50	3600.50	46.97	3520.00	96.4	*******	0.0	0.0	**********	100	100
12	12	555	FIX	3700	400	837.50	837.50	815.03	800.73	103.6	*******	0.0	0.0	**********	100	100
12	12	556	FIX	3700	400	837.50	1050.50	768.43	878.99	113.4	*******	0.0	0.0	**********	100	100
12	12	559	FIX	3700	400	837.50	1687.50	640.82	1500.59	107.8	*******	0.0	0.0	**********	100	100
12	12	560	FIX	3700	400	837.50	1900.50	599.48	1710.93	108.4	*******	0.0	0.0	**********	100	100
12	12	561	FIX	3700	400	837.50	2112.50	556.56	1921.04	99.5	*******	0.0	0.0	**********	100	100
12	12	562	FIX	3700	400	837.50	2325.50	510.40	2126.90	76.5	*******	0.0	0.0	**********	100	100
12	12	563	FIX	3700	400	837.50	2537.50	469.46	2338.71	100.0	*******	0.0	0.0	**********	100	100
12	12	564	FIX	3700	400	837.50	2750.50	426.22	2545.08	103.7	*******	0.0	0.0	**********	100	100
12	12	567	FIX	3700	400	837.50	3387.50	297.59	3166.11	87.5	*******	0.0	0.0	**********	100	100
12	12	572	FIX	3700	400	1050.50	837.50	1024.84	788.88	118.1	*******	0.0	0.0	**********	100	100
12	12	573	FIX	3700	400	1050.50	1050.50	982.17	917.08	81.0	*******	0.0	0.0	**********	100	100
12	12	574	FIX	3700	400	1050.50	1262.50	939.34	1127.13	108.2	*******	0.0	0.0	**********	100	100
12	12	575	FIX	3700	400	1050.50	1475.50	894.71	1335.55	120.8	*******	0.0	0.0	**********	100	100
12	12	576	FIX	3700	400	1050.50	1687.50	850.57	1544.52	113.0	*******	0.0	0.0	**********	100	100
12	12	577	FIX	3700	400	1050.50	1900.50	806.58	1753.99	100.0	*******	0.0	0.0	**********	100	100
12	12	579	FIX	3700	400	1050.50	2325.50	720.47	2174.90	109.3	*******	0.0	0.0	**********	100	100
12	12	580	FIX	3700	400	1050.50	2537.50	677.16	2380.48	76.3	*******	0.0	0.0	**********	100	100
12	12	581	FIX	3700	400	1050.50	2750.50	635.46	2587.75	105.8	*******	0.0	0.0	**********	100	100
12	12	583	FIX	3700	400	1050.50	3175.50	547.50	3004.50	99.0	*******	0.0	0.0	**********	100	100
12	12	586	FIX	3700	400	1262.50	625.50	1274.16	546.52	115.2	*******	0.0	0.0	**********	100	100
12	12	589	FIX	3700	400	1262.50	837.50	1230.32	750.29	125.2	*******	0.0	0.0	**********	100	100
12	12	591	FIX	3700	400	1262.50	1262.50	1144.89	1166.88	116.7	*******	0.0	0.0	**********	100	100
12	12	592	FIX	3700	400	1262.50	1475.50	1103.54	1378.75	111.8	*******	0.0	0.0	**********	100	100
12	12	593	FIX	3700	400	1262.50	1687.50	1059.33	1587.72	107.8	*******	0.0	0.0	**********	100	100
12	12	594	FIX	3700	400	1262.50	1900.50	1015.14	1798.58	100.9	*******	0.0	0.0	**********	100	100
12	12	595	FIX	3700	400	1262.50	2112.50	971.71	2008.93	113.8	*******	0.0	0.0	**********	100	100
12	12	596	FIX	3700	400	1262.50	2325.50	928.67	2217.61	92.0	*******	0.0	0.0	**********	100	100
12	12	597	FIX	3700	400	1262.50	2537.50	886.03	2426.86	94.8	*******	0.0	0.0	**********	100	100
12	12	598	FIX	3700	400	1262.50	2750.50	843.61	2636.48	74.1	*******	0.0	0.0	**********	100	100
12	12	599	FIX	3700	400	1262.50	2962.50	799.62	2839.24	81.7	*******	0.0	0.0	**********	100	100
12	12	600	FIX	3700	400	1262.50	3175.50	756.09	3047.65	93.7	*******	0.0	0.0	**********	100	100
12	12	605	FIX	3700	400	1475.50	625.50	1483.41	509.41	112.2	*******	0.0	0.0	**********	100	100
12	12	607	FIX	3700	400	1475.50	1050.50	1397.98	1003.41	7.2	*******	0.0	0.0	**********	100	100
12	12	609	FIX	3700	400	1475.50	1475.50	1312.87	1421.73	115.4	*******	0.0	0.0	**********	100	100
12	12	610	FIX	3700	400	1475.50	1687.50	1268.83	1630.83	113.2	*******	0.0	0.0	**********	100	100
12	12	611	FIX	3700	400	1475.50	1900.50	1224.57	1842.03	101.8	*******	0.0	0.0	**********	100	100
12	12	612	FIX	3700	400	1475.50	2112.50	1180.63	2052.56	111.3	*******	0.0	0.0	**********	100	100
12	12	615	FIX	3700	400	1475.50	2750.50	1051.98	2673.55	82.0	*******	0.0	0.0	**********	100	100
12	12	616	FIX	3700	400	1475.50	2962.50	1008.61	2881.89	98.1	*******	0.0	0.0	**********	100	100
12	12	617	FIX	3700	400	1475.50	3175.50	965.90	3089.54	100.2	*******	0.0	0.0	**********	100	100
12	12	618	FIX	3700	400	1475.50	3387.50	923.52	3298.78	94.7	*******	0.0	0.0	**********	100	100
12	12	622	FIX	3700	400	1687.50	625.50	1691.31	632.18	117.5	*******	0.0	0.0	**********	100	100
12	12	623	FIX	3700	400	1687.50	837.50	1648.45	838.59	117.5	*******	0.0	0.0	**********	100	100
12	12	624	FIX	3700	400	1687.50	1050.50	1605.47	1049.90	120.4	*******	0.0	0.0	**********	100	100
12	12	625	FIX	3700	400	1687.50	1262.50	1565.38	1254.31	122.7	*******	0.0	0.0	**********	100	100

CASE NGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
12	12	626	FIX	3700	400	1687.50	1475.50	1521.18	1483.78	110.4	*******	0.0	0.0	**********	100	100
12	12	627	FIX	3700	400	1687.50	1687.50	1476.82	1673.58	109.7	*******	0.0	0.0	**********	100	100
12	12	628	FIX	3700	400	1687.50	1900.50	1432.92	1885.41	109.2	*******	0.0	0.0	**********	100	100
12	12	630	FIX	3700	400	1687.50	2325.50	1345.71	2304.55	114.0	*******	0.0	0.0	**********	100	100
12	12	631	FIX	3700	400	1687.50	2537.50	1302.91	2507.27	98.7	*******	0.0	0.0	**********	100	100
12	12	632	FIX	3700	400	1687.50	2750.50	1260.82	2710.53	103.0	*******	0.0	0.0	**********	100	100
12	12	635	FIX	3700	400	1687.50	2962.50	1217.19	2924.47	101.5	*******	0.0	0.0	**********	100	100
12	12	639	FIX	3700	400	1687.50	3175.50	1173.80	3131.44	99.8	*******	0.0	0.0	**********	100	100
12	12	639	FIX	3700	400	1900.50	625.50	1900.56	674.75	120.1	*******	0.0	0.0	**********	100	100
12	12	641	FIX	3700	400	1900.50	1050.50	1814.08	1008.93	125.1	*******	0.0	0.0	**********	100	100
12	12	642	FIX	3700	400	1900.50	1262.50	1773.40	1240.38	124.2	*******	0.0	0.0	**********	100	100
12	12	643	FIX	3700	400	1900.50	1475.50	1729.52	1305.66	96.3	*******	0.0	0.0	**********	100	100
12	12	644	FIX	3700	400	1900.50	1687.50	1685.81	1715.59	113.8	*******	0.0	0.0	**********	100	100
12	12	645	FIX	3700	400	1900.50	1900.50	1641.31	1927.07	112.4	*******	0.0	0.0	**********	100	100
12	12	650	FIX	3700	400	1900.50	2962.50	1425.36	2907.39	103.5	*******	0.0	0.0	**********	100	100
12	12	657	FIX	3700	400	2112.50	837.50	2064.70	963.92	140.4	*******	0.0	0.0	**********	100	100
12	12	659	FIX	3700	400	2112.50	1262.50	1980.49	1235.14	112.9	*******	0.0	0.0	**********	100	100
12	12	660	FIX	3700	400	2112.50	1475.50	1940.45	1552.10	120.5	*******	0.0	0.0	**********	100	100
12	12	661	FIX	3700	400	2112.50	1687.50	1892.14	1750.00	114.8	*******	0.0	0.0	**********	100	100
12	12	662	FIX	3700	400	2112.50	1900.50	1848.26	1970.12	113.5	*******	0.0	0.0	**********	100	100
12	12	663	FIX	3700	400	2112.50	2112.50	1805.24	2102.31	110.7	*******	0.0	0.0	**********	100	100
12	12	665	FIX	3700	400	2112.50	2537.50	1719.49	2503.40	105.0	*******	0.0	0.0	**********	100	100
12	12	666	FIX	3700	400	2112.50	2750.50	1675.89	2802.12	100.6	*******	0.0	0.0	**********	100	100
12	12	667	FIX	3700	400	2112.50	2962.50	1634.50	3011.50	79.2	*******	0.0	0.0	**********	100	100
12	12	668	FIX	3700	400	2112.50	3175.50	1590.40	3210.17	100.7	*******	0.0	0.0	**********	100	100
12	12	674	FIX	3700	400	2325.50	837.50	2276.50	908.55	112.1	*******	0.0	0.0	**********	100	100
12	12	675	FIX	3700	400	2325.50	1050.50	2231.24	1173.99	120.6	*******	0.0	0.0	**********	100	100
12	12	676	FIX	3700	400	2325.50	1262.50	2188.06	1382.12	115.7	*******	0.0	0.0	**********	100	100
12	12	677	FIX	3700	400	2325.50	1475.50	2144.19	1592.71	104.7	*******	0.0	0.0	**********	100	100
12	12	678	FIX	3700	400	2325.50	1687.50	2102.39	1801.49	100.2	*******	0.0	0.0	**********	100	100
12	12	679	FIX	3700	400	2325.50	1900.50	2056.26	2010.55	118.6	*******	0.0	0.0	**********	100	100
12	12	680	FIX	3700	400	2325.50	2112.50	2013.97	2220.15	113.2	*******	0.0	0.0	**********	100	100
12	12	681	FIX	3700	400	2325.50	2325.50	1969.96	2432.84	113.5	*******	0.0	0.0	**********	100	100
12	12	683	FIX	3700	400	2325.50	2750.50	1883.70	2844.13	122.7	*******	0.0	0.0	**********	100	100
12	12	684	FIX	3700	400	2325.50	2962.50	1842.88	3051.42	89.0	*******	0.0	0.0	**********	100	100
12	12	685	FIX	3700	400	2325.50	3175.50	1798.61	3258.04	101.5	*******	0.0	0.0	**********	100	100
12	12	689	FIX	3700	400	2537.50	412.50	2565.96	500.12	122.4	*******	0.0	0.0	**********	100	100
12	12	690	FIX	3700	400	2537.50	625.50	2522.48	693.89	113.4	*******	0.0	0.0	**********	100	100
12	12	691	FIX	3700	400	2537.50	837.50	2480.75	1088.20	127.8	*******	0.0	0.0	**********	100	100
12	12	692	FIX	3700	400	2537.50	1050.50	2438.02	1297.20	119.0	*******	0.0	0.0	**********	100	100
12	12	693	FIX	3700	400	2537.50	1262.50	2396.36	1496.26	112.8	*******	0.0	0.0	**********	100	100
12	12	694	FIX	3700	400	2537.50	1475.50	2352.15	1698.55	110.6	*******	0.0	0.0	**********	100	100
12	12	695	FIX	3700	400	2537.50	1687.50	2307.61	1847.03	112.2	*******	0.0	0.0	**********	100	100
12	12	696	FIX	3700	400	2537.50	1900.50	2263.71	2082.91	109.3	*******	0.0	0.0	**********	100	100
12	12	697	FIX	3700	400	2537.50	2112.50	2220.98	2288.40	124.0	*******	0.0	0.0	**********	100	100
12	12	698	FIX	3700	400	2537.50	2325.50	2178.06	2493.38	114.0	*******	0.0	0.0	**********	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE RGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
12	12 695	FIX	3700	400	2537.50	2537.50	2136.02	2680.67	121.2	*******	0.0	0.0	*********	100	100
12	12 700	FIX	3700	400	2537.50	2750.50	2092.44	2867.51	124.7	*******	0.0	0.0	*********	100	100
12	12 701	FIX	3700	400	2537.50	2962.50	2048.92	3054.46	105.4	*******	0.0	0.0	*********	100	100
12	12 707	FIX	3700	400	2750.50	625.50	2730.72	845.88	108.8	*******	0.0	0.0	*********	100	100
12	12 708	FIX	3700	400	2750.50	837.50	2687.69	1052.80	108.5	*******	0.0	0.0	*********	100	100
12	12 710	FIX	3700	400	2750.50	1262.50	2604.28	1472.68	109.4	*******	0.0	0.0	*********	100	100
12	12 711	FIX	3700	400	2750.50	1475.50	2560.65	1680.74	110.0	*******	0.0	0.0	*********	100	100
12	12 712	FIX	3700	400	2750.50	1687.50	2517.24	1892.23	117.9	*******	0.0	0.0	*********	100	100
12	12 713	FIX	3700	400	2750.50	1900.50	2473.61	2100.50	119.3	*******	0.0	0.0	*********	100	100
12	12 714	FIX	3700	400	2750.50	2112.50	2429.49	2312.02	100.8	*******	0.0	0.0	*********	100	100
12	12 715	FIX	3700	400	2750.50	2325.50	2386.98	2518.40	107.6	*******	0.0	0.0	*********	100	100
12	12 716	FIX	3700	400	2750.50	2537.50	2344.35	2724.31	110.2	*******	0.0	0.0	*********	100	100
12	12 717	FIX	3700	400	2750.50	2750.50	2300.78	2931.30	109.6	*******	0.0	0.0	*********	100	100
12	12 718	FIX	3700	400	2750.50	2962.50	2258.31	3138.52	108.8	*******	0.0	0.0	*********	100	100
12	12 719	FIX	3700	400	2750.50	3175.50	2215.57	3344.67	108.2	*******	0.0	0.0	*********	100	100
12	12 724	FIX	3700	400	2962.50	625.50	2938.56	858.14	115.1	*******	0.0	0.0	*********	100	100
12	12 727	FIX	3700	400	2962.50	1262.50	2811.50	1512.43	110.3	*******	0.0	0.0	*********	100	100
12	12 728	FIX	3700	400	2962.50	1475.50	2768.04	1727.73	110.5	*******	0.0	0.0	*********	100	100
12	12 729	FIX	3700	400	2962.50	1687.50	2725.16	1938.96	105.8	*******	0.0	0.0	*********	100	100
12	12 730	FIX	3700	400	2962.50	1900.50	2680.10	2150.30	107.4	*******	0.0	0.0	*********	100	100
12	12 731	FIX	3700	400	2962.50	2112.50	2638.42	2358.28	110.0	*******	0.0	0.0	*********	100	100
12	12 732	FIX	3700	400	2962.50	2325.50	2595.94	2566.01	102.6	*******	0.0	0.0	*********	100	100
12	12 733	FIX	3700	400	2962.50	2537.50	2551.44	2767.31	103.7	*******	0.0	0.0	*********	100	100
12	12 734	FIX	3700	400	2962.50	2750.50	2508.83	2974.51	112.1	*******	0.0	0.0	*********	100	100
12	12 736	FIX	3700	400	2962.50	3175.50	2418.51	3388.52	113.1	*******	0.0	0.0	*********	100	100
12	12 747	FIX	3700	400	3175.50	1900.50	2889.92	2149.73	113.0	*******	0.0	0.0	*********	100	100
12	12 748	FIX	3700	400	3175.50	2112.50	2842.99	2362.79	111.3	*******	0.0	0.0	*********	100	100
12	12 749	FIX	3700	400	3175.50	2325.50	2804.59	2604.80	108.8	*******	0.0	0.0	*********	100	100
12	12 750	FIX	3700	400	3175.50	2537.50	2760.57	2809.07	92.1	*******	0.0	0.0	*********	100	100
12	12 751	FIX	3700	400	3175.50	2750.50	2717.51	3013.61	100.6	*******	0.0	0.0	*********	100	100
12	12 768	FIX	3700	400	3387.50	2750.50	2925.54	3056.84	108.1	*******	0.0	0.0	*********	100	100
12	121601	FIX	3700	400	209.00	849.00	196.00	903.00	0.0	*******	0.0	0.0	*********	100	100
12	121602	FIX	3700	400	59.00	879.00	43.00	903.00	0.0	*******	0.0	0.0	*********	100	100
12	121603	FIX	3700	400	265.00	829.00	255.00	895.00	0.0	*******	0.0	0.0	*********	100	100
12	121604	FIX	3700	400	553.00	727.00	558.00	909.00	0.0	*******	0.0	0.0	*********	100	100
12	121605	FIX	3700	400	848.00	701.00	853.00	909.00	0.0	*******	0.0	0.0	*********	100	100
12	121606	FIX	3700	400	823.00	1062.00	755.00	883.00	0.0	*******	0.0	0.0	*********	100	100
12	121607	FIX	3700	400	795.00	1174.00	706.00	900.00	0.0	*******	0.0	0.0	*********	100	100
12	121608	FIX	3700	400	620.00	1155.00	537.00	904.00	0.0	*******	0.0	0.0	*********	100	100
12	121609	FIX	3700	400	587.00	1367.00	462.00	1137.00	0.0	*******	0.0	0.0	*********	100	100
12	121610	FIX	3700	400	399.00	1345.00	280.00	1078.00	0.0	*******	0.0	0.0	*********	100	100
12	121611	FIX	3700	400	569.00	1533.00	411.00	1295.00	0.0	*******	0.0	0.0	*********	100	100
12	121612	FIX	3700	400	399.00	1571.00	239.00	1300.00	0.0	*******	0.0	0.0	*********	100	100
12	121613	FIX	3700	400	557.00	1587.00	387.00	1344.00	0.0	*******	0.0	0.0	*********	100	100
12	121614	FIX	3700	400	806.00	1526.00	644.00	1330.00	0.0	*******	0.0	0.0	*********	100	100
12	121615	FIX	3700	400	871.00	3402.00	328.00	3189.00	0.0	*******	0.0	0.0	*********	100	100

CASE AGMY00.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME LINE	EPP SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
12	121618	FIX	3700	400	771.00	3346.00	241.00	3414.00	0.0*******		0.0	0.0**********		100	100
12	121617	FIX	3700	400	704.00	3455.00	153.00	3523.00	0.0*******		0.0	0.0**********		100	100
12	121618	FIX	3700	400	781.00	3288.00	261.00	3361.00	0.0*******		0.0	0.0**********		100	100
12	121619	FIX	3700	400	956.00	3092.00	474.00	2963.00	0.0*******		0.0	0.0**********		100	100
12	121620	FIX	3700	400	849.00	3061.00	376.00	2852.00	0.0*******		0.0	0.0**********		100	100
12	121621	FIX	3700	400	3285.00	2707.00	2835.00	2992.00	0.0*******		0.0	0.0**********		100	100
12	121622	FIX	3700	400	3208.00	2625.00	2774.00	2901.00	0.0*******		0.0	0.0**********		100	100
12	121623	FIX	3700	400	3040.00	2676.00	2600.00	2918.00	0.0*******		0.0	0.0**********		100	100
12	121624	FIX	3700	400	3147.00	2541.00	2731.00	2900.00	0.0*******		0.0	0.0**********		100	100
12	121625	FIX	3700	400	3218.00	2501.00	2809.00	2784.00	0.0*******		0.0	0.0**********		100	100
12	14	22	MOVE	3700	400	498.39	2703.33	100.50	2429.50	58.5	63.9	-3.3	-1.3	-7.3	100	100
12	14	23	MOVE	3700	400	518.36	2798.89	100.50	2526.50	55.0	63.6	-4.1	-0.9	-8.6	100	100
12	14	24	MOVE	3700	400	538.36	2894.10	100.50	2622.50	54.9	62.6	-4.6	-0.3	-7.8	100	100
12	14	26	MOVE	3700	400	576.91	3083.70	100.50	2816.50	54.6	63.0	-3.3	-1.1	-8.4	100	100
12	14	27	MOVE	3700	400	596.04	3179.34	100.50	2913.50	55.6	62.8	-2.8	-1.2	-7.2	100	100
12	14	28	MOVE	3700	400	614.32	3274.52	100.50	3009.50	57.8	61.3	-1.1	-1.9	-3.6	100	100
12	14	29	MOVE	3700	400	632.66	3370.34	100.50	3106.50	54.7	63.6	0.9	-2.9	-8.9	100	100
12	14	30	MOVE	3700	400	652.02	3465.52	100.50	3203.50	46.7	52.0	0.9	-2.5	-5.3	100	100
12	14	31	MOVE	3700	400	672.60	3561.16	100.50	3300.50	57.4	63.8	0.4	-2.1	-6.4	100	100
12	14	32	MOVE	3700	400	765.62	3537.37	196.50	3296.50	53.0	60.5	0.3	-1.8	-7.5	100	100
12	14	33	MOVE	3700	400	859.86	3514.97	293.50	3293.50	54.8	59.0	0.4	-1.2	-4.1	100	100
12	14	34	MOVE	3700	400	952.68	3491.59	389.50	3289.50	45.6	51.8	0.2	-0.8	-6.2	100	100
12	14	35	MOVE	3700	400	1047.02	3468.78	486.50	3286.50	56.1	63.9	0.2	-0.8	-7.8	100	100
12	14	36	MOVE	3700	400	1140.38	3445.83	582.50	3282.50	56.8	59.9	0.5	-0.1	-3.1	100	100
12	14	37	MOVE	3700	400	1234.89	3423.72	679.50	3279.50	55.8	60.7	0.6	0.6	-4.9	100	100
12	14	38	MOVE	3700	400	1328.13	3400.30	775.50	3275.50	53.8	62.2	0.7	0.8	-8.4	100	100
12	14	39	MOVE	3700	400	1422.47	3377.31	872.50	3272.50	57.5	60.0	0.7	0.6	-2.4	100	100
12	14	40	MOVE	3700	400	1515.21	3353.72	968.50	3268.50	55.2	57.5	0.3	0.5	-4.2	100	100
12	14	41	MOVE	3700	400	1609.44	3330.96	1065.50	3265.50	50.9	49.3	0.2	0.5	1.6	100	100
12	14	42	MOVE	3700	400	1703.68	3307.88	1162.50	3262.50	52.6	58.3	0.1	0.2	-5.8	100	100
12	14	43	MOVE	3700	400	1796.95	3284.61	1258.50	3258.50	52.7	57.3	0.2	0.4	-4.6	100	100
12	14	44	MOVE	3700	400	1891.08	3262.04	1355.50	3255.50	50.1	58.6	-0.1	0.5	-8.5	100	100
12	14	45	MOVE	3700	400	1984.21	3238.34	1451.50	3251.50	55.7	62.6	-0.1	0.2	-6.9	100	100
12	14	46	MOVE	3700	400	2078.59	3215.97	1548.50	3248.50	61.1	67.2	-0.1	0.5	-6.1	100	100
12	14	47	MOVE	3700	400	2171.84	3192.50	1644.50	3244.50	55.8	58.8	-0.0	0.4	-3.1	100	100
12	14	48	MOVE	3700	400	2266.22	3169.85	1741.50	3241.50	62.0	60.9	-0.1	0.2	1.2	100	100
12	14	50	MOVE	3700	400	2453.62	3124.36	1934.50	3234.50	54.4	61.4	-0.6	0.6	-9.1	100	100
12	14	52	MOVE	3700	400	2640.76	3078.53	2127.50	3227.50	49.4	61.5	-0.2	0.6	-12.1	100	100
12	14	53	MOVE	3700	400	2735.33	3056.02	2224.50	3224.50	52.8	66.0	-0.2	0.6	-13.2	100	100
12	14	54	MOVE	3700	400	2829.36	3032.78	2320.50	3220.50	58.6	63.0	-0.2	1.2	-4.4	100	100
12	14	55	MOVE	3700	400	2924.30	3010.18	2417.50	3217.50	58.0	60.5	-0.4	1.9	-2.5	100	100
12	14	56	MOVE	3700	400	3017.23	2986.70	2513.50	3213.50	59.6	63.1	-0.8	1.9	-3.5	100	100
12	14	81	MOVE	3700	400	2975.02	3080.37	2452.54	3296.41	62.0	59.5	-1.0	1.8	3.5	100	100
12	14	82	MOVE	3700	400	2956.02	2984.21	2453.77	3199.03	59.0	61.4	-0.4	1.6	-2.4	100	100
12	14	83	MOVE	3700	400	2937.44	2888.79	2455.54	3102.33	67.7	66.0	0.0	1.6	1.8	100	100
12	14	84	MOVE	3700	400	2918.91	2792.68	2457.32	3005.38	58.9	60.1	0.2	1.3	-3.2	100	100

CASE RGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
12	14	85	MOVE	3700	400	2900.44	2696.16	2458.93	2507.72	63.4	69.2	0.3	1.3	-5.8	100	100
12	14	86	MOVE	3700	400	2882.17	2599.89	2400.51	2610.69	62.0	64.4	0.2	1.1	-2.5	100	100
12	14	87	MOVE	3700	400	2864.29	2504.83	2462.37	2715.19	67.0	69.7	-0.2	0.6	-2.7	100	100
12	14	88	MOVE	3700	400	2845.50	2408.36	2463.29	2617.69	58.0	63.7	0.3	0.6	-5.7	100	100
12	14	89	MOVE	3700	400	2827.31	2311.82	2465.31	2520.47	59.7	60.9	0.1	0.6	8.8	100	100
12	14	90	MOVE	3700	400	2809.02	2216.12	2466.48	2423.24	67.1	64.8	0.3	1.4	2.3	100	100
12	14	91	MOVE	3700	400	2791.23	2122.84	2467.51	2327.44	66.5	62.6	0.8	3.0	3.9	100	100
12	14	92	MOVE	3700	400	2697.61	2146.47	2371.35	2331.01	59.6	64.0	0.2	2.6	-4.4	100	100
12	14	93	MOVE	3700	400	2603.43	2171.24	2273.73	2337.36	57.7	61.4	0.5	1.6	-3.7	100	100
12	14	94	MOVE	3700	400	2510.32	2195.59	2177.52	2342.50	61.3	66.8	0.7	1.1	-5.5	100	100
12	14	95	MOVE	3700	400	2416.96	2220.73	2081.64	2348.31	62.5	66.5	0.2	1.2	-4.0	100	100
12	14	96	MOVE	3700	400	2323.79	2245.64	1984.66	2353.51	66.6	74.0	0.5	1.4	-7.4	100	100
12	14	97	MOVE	3700	400	2229.99	2271.50	1887.63	2359.11	68.3	69.2	0.4	1.5	-1.0	100	100
12	14	99	MOVE	3700	400	2043.30	2323.83	1694.61	2370.26	63.7	68.3	0.7	2.4	-4.7	100	100
12	14	100	MOVE	3700	400	1949.87	2348.37	1597.70	2375.49	64.8	71.7	1.0	2.0	-6.9	100	100
12	14	101	MOVE	3700	400	1855.73	2371.80	1500.85	2379.37	63.4	64.0	0.8	1.9	-0.6	100	100
12	14	103	MOVE	3700	400	1668.70	2421.24	1307.54	2390.41	59.7	66.5	0.6	0.8	-6.8	100	100
12	14	104	MOVE	3700	400	1574.32	2446.01	1209.62	2395.82	62.2	65.8	0.8	0.6	-3.5	100	100
12	14	105	MOVE	3700	400	1481.87	2471.18	1114.35	2402.39	63.4	69.6	0.2	0.0	-6.2	100	100
12	14	106	MOVE	3700	400	1387.82	2495.19	1017.46	2406.40	55.1	62.9	0.2	0.9	-7.7	100	100
12	14	107	MOVE	3700	400	1294.43	2519.81	920.68	2411.71	53.5	59.2	0.5	1.1	-5.8	100	100
12	14	108	MOVE	3700	400	1200.55	2545.02	823.62	2417.43	57.3	61.9	0.3	1.0	-4.6	100	100
12	14	109	MOVE	3700	400	1107.79	2570.15	727.55	2423.24	47.5	53.4	-0.1	0.8	-6.0	100	100
12	14	110	MOVE	3700	400	1013.75	2595.01	630.46	2428.50	55.4	58.0	-0.1	0.9	-2.6	100	100
12	14	111	MOVE	3700	400	919.27	2619.01	533.02	2433.23	53.7	55.9	-0.1	0.7	-2.2	100	100
12	14	112	MOVE	3700	400	826.78	2643.50	437.38	2438.33	54.6	57.0	-0.4	0.4	-2.4	100	100
12	14	114	MOVE	3700	400	641.31	2693.77	243.74	2449.63	57.5	60.1	-2.1	-0.9	-2.6	100	100
12	14	115	MOVE	3700	400	548.32	2719.37	146.68	2455.40	48.8	52.2	-3.2	-1.2	-3.4	100	100
12	14	116	MOVE	3700	400	456.39	2744.43	50.57	2460.69	53.6	56.4	-4.1	-1.6	-2.8	100	100
13	11	22	MOVE	900	3100	519.36	715.46	520.55	380.44	55.8	56.1	9.1	1.3	-0.4	100	100
13	11	25	MOVE	900	3100	582.08	1001.85	531.48	674.97	55.3	54.4	8.0	2.7	0.9	100	100
13	11	26	MOVE	900	3100	602.70	1097.76	534.76	770.14	61.4	59.5	7.1	2.5	1.9	100	100
13	11	27	MOVE	900	3100	622.98	1192.84	538.79	868.17	65.3	60.0	5.3	1.7	5.3	100	100
13	11	28	MOVE	900	3100	642.94	1286.61	541.83	964.45	64.5	63.1	4.6	0.8	1.4	100	100
13	11	29	MOVE	900	3100	664.34	1382.03	546.32	1062.39	58.3	58.5	3.6	0.1	-0.2	100	100
13	11	30	MOVE	900	3100	684.93	1478.74	549.55	1160.41	68.9	54.4	2.8	0.3	14.5	100	100
13	11	32	MOVE	900	3100	798.99	1551.55	649.58	1252.50	66.6	64.3	1.0	-0.2	2.3	100	100
13	11	33	MOVE	900	3100	893.18	1529.26	746.57	1248.43	55.1	59.2	0.5	-0.5	-4.1	100	100
13	11	34	MOVE	900	3100	986.53	1506.48	842.52	1243.43	52.6	51.4	0.2	-0.7	1.1	100	100
13	11	35	MOVE	900	3100	1080.94	1483.73	939.46	1239.24	61.9	55.1	-0.1	-1.5	6.8	100	100
13	11	37	MOVE	900	3100	1269.71	1439.14	1132.43	1228.27	49.1	54.8	0.8	0.1	-5.6	100	100
13	11	38	MOVE	900	3100	1362.07	1420.87	1224.41	1230.76	52.7	50.7	2.0	-3.7	2.0	100	100
13	11	39	MOVE	900	3100	1457.48	1395.25	1324.59	1244.46	48.0	48.6	0.7	0.0	-0.7	100	100
13	11	40	MOVE	900	3100	1551.01	1372.07	1421.28	1213.51	58.8	61.5	0.0	0.5	-2.6	100	100
13	11	42	MOVE	900	3100	1739.33	1327.33	1614.50	1209.32	45.5	56.7	0.4	-0.2	-11.2	100	100
13	11	43	MOVE	900	3100	1832.14	1304.79	1709.57	1199.73	60.3	53.6	0.6	-0.6	6.7	100	100

CASE RuM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
13	11	44	MOVE	900	3100	1926.47	1282.83	1806.53	1192.33	56.1	53.0	0.2	-0.7	3.1	100	100
13	11	45	MOVE	900	3100	2019.57	1259.93	1902.24	1169.41	47.5	56.4	0.1	-0.6	-8.9	100	100
13	11	46	MOVE	900	3100	2113.82	1237.94	1998.73	1146.79	49.5	56.0	0.2	-0.7	-6.5	100	100
13	11	47	MOVE	900	3100	2207.13	1214.99	2094.57	1179.39	51.3	55.4	0.1	-0.6	-4.1	100	100
13	11	48	MOVE	900	3100	2301.53	1192.73	2191.28	1174.04	47.8	56.9	0.1	-0.3	-9.1	100	100
13	11	49	MOVE	900	3100	2394.40	1170.29	2286.62	1169.07	45.7	55.9	0.4	-0.5	-10.1	100	100
13	11	50	MOVE	900	3100	2488.24	1148.49	2382.67	1165.46	43.7	51.2	0.9	-0.5	-7.5	100	100
13	11	51	MOVE	900	3100	2582.42	1125.93	2479.56	1160.62	47.9	48.7	0.9	0.0	-0.8	100	100
13	11	52	MOVE	900	3100	2675.40	1102.50	2575.46	1155.32	54.3	55.4	0.9	0.3	4.0	100	100
13	11	53	MOVE	900	3100	2769.64	1079.54	2672.57	1150.03	54.5	54.7	1.0	1.0	-0.1	100	100
13	11	54	MOVE	900	3100	2862.71	1056.39	2768.29	1144.73	60.4	55.9	1.1	1.1	4.5	100	100
13	11	55	MOVE	900	3100	2957.25	1034.32	2865.36	1140.23	54.8	58.2	1.1	1.0	-4.2	100	100
13	11	56	MOVE	900	3100	3050.26	1011.08	2960.62	1134.28	58.9	52.9	1.5	1.2	4.0	100	100
13	11	81	MOVE	900	3100	2997.27	1055.06	2900.50	1167.50	49.9	49.8	1.5	1.2	0.1	100	100
13	11	82	MOVE	900	3100	2978.33	958.51	2900.50	1070.50	55.2	55.6	0.6	0.6	-2.4	100	100
13	11	83	MOVE	900	3100	2960.33	862.68	2900.50	974.50	58.8	54.4	0.6	-0.1	4.4	100	100
13	11	84	MOVE	900	3100	2942.00	766.18	2900.50	877.50	54.5	49.1	0.4	-0.4	5.4	100	100
13	11	85	MOVE	900	3100	2924.06	669.90	2900.50	780.50	53.9	54.7	0.5	-0.6	-0.8	100	100
13	11	86	MOVE	900	3100	2905.86	574.15	2900.50	683.50	54.3	57.1	0.5	-0.1	3.2	100	100
13	11	87	MOVE	900	3100	2888.10	478.82	2900.50	587.50	52.0	55.1	0.6	-0.3	-3.0	100	100
13	11	88	MOVE	900	3100	2869.99	382.82	2900.50	490.50	54.0	55.0	0.7	-0.2	-1.0	100	100
13	11	89	MOVE	900	3100	2852.06	286.57	2900.50	393.50	54.8	55.3	0.8	-0.3	-0.6	100	100
13	11	90	MOVE	900	3100	2834.18	190.41	2900.50	296.50	54.7	53.4	1.0	-0.6	1.3	100	100
13	11	91	MOVE	900	3100	2816.16	95.54	2900.50	200.50	54.8	57.8	0.8	-1.0	7.0	100	100
13	11	92	MOVE	900	3100	2722.22	119.25	2803.50	206.50	60.4	58.7	1.0	-1.2	1.7	100	100
13	11	94	MOVE	900	3100	2534.95	169.56	2610.50	270.50	53.4	56.9	0.6	-0.9	-3.5	100	100
13	11	95	MOVE	900	3100	2441.21	194.20	2513.50	227.50	52.2	60.3	0.7	-1.3	-8.1	100	100
13	11	96	MOVE	900	3100	2348.27	219.06	2417.50	234.50	47.2	56.6	0.7	-1.5	-9.4	100	100
13	11	97	MOVE	900	3100	2254.09	244.14	2320.50	241.50	45.2	44.7	0.6	-1.4	0.5	100	100
13	11	98	MOVE	900	3100	2160.74	269.53	2224.50	248.50	53.3	53.3	0.3	-0.7	0.1	100	100
13	11	99	MOVE	900	3100	2066.94	294.49	2127.50	255.50	51.9	55.7	0.6	-0.7	-3.8	100	100
13	11	100	MOVE	900	3100	1973.82	319.53	2031.50	262.50	65.2	64.9	0.6	-0.6	0.3	100	100
13	11	101	MOVE	900	3100	1879.36	343.05	1934.50	268.50	56.3	56.5	0.3	-0.9	-0.2	100	100
13	11	103	MOVE	900	3100	1692.73	392.52	1741.50	282.50	61.3	58.2	0.6	-0.8	3.1	100	100
13	11	104	MOVE	900	3100	1598.18	417.65	1644.50	289.50	62.6	60.0	0.1	-0.4	2.6	100	100
13	11	105	MOVE	900	3100	1505.54	442.44	1548.50	296.50	66.0	60.6	0.5	-0.0	5.4	100	100
13	11	106	MOVE	900	3100	1411.01	466.70	1451.50	303.50	54.7	53.8	0.2	-0.3	0.9	100	100
13	11	107	MOVE	900	3100	1317.89	490.93	1355.50	310.50	59.4	57.3	0.3	-0.4	2.2	100	100
13	11	108	MOVE	900	3100	1223.44	515.23	1258.50	317.50	52.3	53.3	0.1	-0.4	-1.0	100	100
13	11	109	MOVE	900	3100	1130.71	539.17	1162.50	324.50	60.5	59.7	0.6	-0.5	6.7	100	100
13	11	110	MOVE	900	3100	1036.57	564.06	1065.50	331.50	67.0	61.4	0.7	-0.0	5.6	100	100
13	11	111	MOVE	900	3100	943.80	590.02	968.50	337.50	61.1	57.2	2.3	2.1	3.9	100	100
13	11	112	MOVE	900	3100	852.55	615.83	872.50	344.50	58.2	59.1	4.3	3.2	-0.9	100	100
13	11	113	MOVE	900	3100	760.26	640.32	775.50	351.50	61.4	59.8	6.3	3.0	1.5	100	100
13	11	114	MOVE	900	3100	668.39	664.70	679.50	358.50	64.8	59.1	7.6	2.8	5.7	100	100
13	11	115	MOVE	900	3100	575.90	689.02	582.50	365.50	55.9	56.8	8.6	1.7	-2.9	100	100

CASE KOM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME LINE	ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
13	11	116	MOVE	900	3100	484.89	715.01	486.50	372.50	62.5	60.3	8.9	1.4	2.2	100	100
13	13	522	FIX	900	3100	212.50	850.50	201.53	990.99	11.2*******		0.0	0.0**********		100	100
13	13	524	FIX	900	3100	212.50	1275.50	122.33	874.98	90.8*******		0.0	0.0**********		100	100
13	13	525	FIX	900	3100	212.50	1487.50	83.25	1083.10	90.0*******		0.0	0.0**********		100	100
13	13	526	FIX	900	3100	212.50	1700.50	44.92	1292.81	89.7*******		0.0	0.0**********		100	100
13	13	541	FIX	900	3100	425.50	1275.50	332.06	915.38	92.5*******		0.0	0.0**********		100	100
13	13	543	FIX	900	3100	425.50	1700.50	253.85	1329.24	95.9*******		0.0	0.0**********		100	100
13	13	544	FIX	900	3100	425.50	1912.50	214.47	1538.85	89.7*******		0.0	0.0**********		100	100
13	13	545	FIX	900	3100	425.50	2125.50	174.61	1747.90	89.5*******		0.0	0.0**********		100	100
13	13	546	FIX	900	3100	425.50	2337.50	136.96	1959.99	86.3*******		0.0	0.0**********		100	100
13	13	547	FIX	900	3100	425.50	2550.50	95.53	2170.11	91.5*******		0.0	0.0**********		100	100
13	13	548	FIX	900	3100	425.50	2762.50	56.62	2379.08	91.8*******		0.0	0.0**********		100	100
13	13	555	FIX	900	3100	637.50	637.50	601.30	350.62	91.3*******		0.0	0.0**********		100	100
13	13	557	FIX	900	3100	637.50	1062.50	582.48	760.08	88.0*******		0.0	0.0**********		100	100
13	13	559	FIX	900	3100	637.50	1487.50	504.30	1161.14	101.5*******		0.0	0.0**********		100	100
13	13	560	FIX	900	3100	637.50	1700.50	462.37	1367.65	85.4*******		0.0	0.0**********		100	100
13	13	561	FIX	900	3100	637.50	1912.50	423.32	1572.69	93.4*******		0.0	0.0**********		100	100
13	13	562	FIX	900	3100	637.50	2125.50	383.64	1780.38	102.0*******		0.0	0.0**********		100	100
13	13	563	FIX	900	3100	637.50	2337.50	343.84	1990.32	87.2*******		0.0	0.0**********		100	100
13	13	564	FIX	900	3100	637.50	2550.50	305.53	2209.73	88.8*******		0.0	0.0**********		100	100
13	13	565	FIX	900	3100	637.50	2762.50	265.50	2419.70	86.1*******		0.0	0.0**********		100	100
13	13	567	FIX	900	3100	637.50	3187.50	186.53	2832.88	90.5*******		0.0	0.0**********		100	100
13	13	573	FIX	900	3100	850.50	850.50	829.55	570.79	130.6*******		0.0	0.0**********		100	100
13	13	575	FIX	900	3100	850.50	1275.50	751.93	993.73	104.0*******		0.0	0.0**********		100	100
13	13	576	FIX	900	3100	850.50	1487.50	713.05	1200.22	90.5*******		0.0	0.0**********		100	100
13	13	577	FIX	900	3100	850.50	1700.50	673.37	1409.00	90.6*******		0.0	0.0**********		100	100
13	13	578	FIX	900	3100	850.50	1912.50	634.00	1611.79	92.7*******		0.0	0.0**********		100	100
13	13	580	FIX	900	3100	850.50	2337.50	556.48	2037.30	80.2*******		0.0	0.0**********		100	100
13	13	581	FIX	900	3100	850.50	2550.50	516.83	2230.00	99.8*******		0.0	0.0**********		100	100
13	13	582	FIX	900	3100	850.50	2762.50	474.58	2440.22	76.6*******		0.0	0.0**********		100	100
13	13	583	FIX	900	3100	850.50	2975.50	435.14	2648.14	92.1*******		0.0	0.0**********		100	100
13	13	585	FIX	900	3100	850.50	3400.50	356.58	3070.03	74.1*******		0.0	0.0**********		100	100
13	13	588	FIX	900	3100	1062.50	425.50	1117.31	201.00	109.6*******		0.0	0.0**********		100	100
13	13	590	FIX	900	3100	1062.50	850.50	1038.00	614.76	112.3*******		0.0	0.0**********		100	100
13	13	591	FIX	900	3100	1062.50	1062.50	999.50	822.85	106.2*******		0.0	0.0**********		100	100
13	13	593	FIX	900	3100	1062.50	1487.50	920.77	1230.48	91.0*******		0.0	0.0**********		100	100
13	13	594	FIX	900	3100	1062.50	1700.50	881.70	1440.36	91.1*******		0.0	0.0**********		100	100
13	13	595	FIX	900	3100	1062.50	1912.50	842.45	1651.82	88.7*******		0.0	0.0**********		100	100
13	13	596	FIX	900	3100	1062.50	2125.50	803.59	1860.99	88.1*******		0.0	0.0**********		100	100
13	13	597	FIX	900	3100	1062.50	2337.50	765.95	2070.13	94.1*******		0.0	0.0**********		100	100
13	13	598	FIX	900	3100	1062.50	2550.50	725.48	2280.83	91.0*******		0.0	0.0**********		100	100
13	13	599	FIX	900	3100	1062.50	2762.50	685.61	2490.83	91.8*******		0.0	0.0**********		100	100
13	13	600	FIX	900	3100	1062.50	2975.50	646.84	2701.13	89.9*******		0.0	0.0**********		100	100
13	13	601	FIX	900	3100	1062.50	3187.50	607.54	2911.71	89.2*******		0.0	0.0**********		100	100
13	13	604	FIX	900	3100	1062.50	3400.50	566.53	3121.61	87.3*******		0.0	0.0**********		100	100
13	13	637	FIX	900	3100	1275.50	850.50	1247.65	652.41	101.9*******		0.0	0.0**********		100	100

CASE KGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
13	13	608	FIX	900	3100	1275.50	1062.50	1208.35	881.24	89.0*******		0.0	0.0**********		100	100
13	13	609	FIX	900	3100	1275.50	1275.50	1169.36	1076.71	99.0*******		0.0	0.0**********		100	100
13	13	610	FIX	900	3100	1275.50	1487.50	1129.81	1277.33	87.3*******		0.0	0.0**********		100	100
13	13	611	FIX	900	3100	1275.50	1700.50	1090.84	1480.72	91.9*******		0.0	0.0**********		100	100
13	13	612	FIX	900	3100	1275.50	1912.50	1051.35	1692.57	94.8*******		0.0	0.0**********		100	100
13	13	613	FIX	900	3100	1275.50	2125.50	1012.42	1906.70	79.6*******		0.0	0.0**********		100	100
13	13	614	FIX	900	3100	1275.50	2337.50	972.81	2118.80	85.2*******		0.0	0.0**********		100	100
13	13	615	FIX	900	3100	1275.50	2550.50	934.44	2329.73	88.5*******		0.0	0.0**********		100	100
13	13	616	FIX	900	3100	1275.50	2762.50	893.48	2533.49	82.7*******		0.0	0.0**********		100	100
13	13	617	FIX	900	3100	1275.50	2975.50	855.02	2746.42	93.7*******		0.0	0.0**********		100	100
13	13	618	FIX	900	3100	1275.50	3187.50	815.73	2955.24	84.5*******		0.0	0.0**********		100	100
13	13	622	FIX	900	3100	1487.50	425.50	1534.20	278.48	95.8*******		0.0	0.0**********		100	100
13	13	623	FIX	900	3100	1487.50	637.50	1495.51	482.33	102.2*******		0.0	0.0**********		100	100
13	13	624	FIX	900	3100	1487.50	850.50	1456.61	689.55	102.8*******		0.0	0.0**********		100	100
13	13	625	FIX	900	3100	1487.50	1062.50	1416.68	898.48	90.1*******		0.0	0.0**********		100	100
13	13	626	FIX	900	3100	1487.50	1275.50	1376.65	1109.90	98.3*******		0.0	0.0**********		100	100
13	13	627	FIX	900	3100	1487.50	1487.50	1337.61	1314.17	101.2*******		0.0	0.0**********		100	100
13	13	628	FIX	900	3100	1487.50	1700.50	1298.10	1516.22	88.0*******		0.0	0.0**********		100	100
13	13	629	FIX	900	3100	1487.50	1912.50	1259.76	1732.37	92.2*******		0.0	0.0**********		100	100
13	13	630	FIX	900	3100	1487.50	2125.50	1220.42	1945.01	71.6*******		0.0	0.0**********		100	100
13	13	633	FIX	900	3100	1487.50	2762.50	1101.98	2577.17	91.7*******		0.0	0.0**********		100	100
13	13	634	FIX	900	3100	1487.50	2975.50	1063.04	2784.52	91.7*******		0.0	0.0**********		100	100
13	13	635	FIX	900	3100	1487.50	3187.50	1023.98	2987.45	75.7*******		0.0	0.0**********		100	100
13	13	639	FIX	900	3100	1700.50	425.50	1743.92	314.04	101.3*******		0.0	0.0**********		100	100
13	13	640	FIX	900	3100	1700.50	637.50	1704.61	520.91	104.0*******		0.0	0.0**********		100	100
13	13	641	FIX	900	3100	1700.50	850.50	1665.38	727.24	97.8*******		0.0	0.0**********		100	100
13	13	642	FIX	900	3100	1700.50	1062.50	1626.38	938.69	89.4*******		0.0	0.0**********		100	100
13	13	643	FIX	900	3100	1700.50	1275.50	1586.46	1147.94	94.4*******		0.0	0.0**********		100	100
13	13	644	FIX	900	3100	1700.50	1487.50	1546.59	1351.89	94.6*******		0.0	0.0**********		100	100
13	13	645	FIX	900	3100	1700.50	1700.50	1508.10	1557.12	75.7*******		0.0	0.0**********		100	100
13	13	646	FIX	900	3100	1700.50	1912.50	1469.03	1770.27	94.4*******		0.0	0.0**********		100	100
13	13	647	FIX	900	3100	1700.50	2125.50	1429.36	1979.31	94.6*******		0.0	0.0**********		100	100
13	13	648	FIX	900	3100	1700.50	2337.50	1390.21	2190.74	81.7*******		0.0	0.0**********		100	100
13	13	649	FIX	900	3100	1700.50	2550.50	1350.69	2400.45	93.5*******		0.0	0.0**********		100	100
13	13	650	FIX	900	3100	1700.50	2762.50	1310.98	2612.44	100.7*******		0.0	0.0**********		100	100
13	13	651	FIX	900	3100	1700.50	2975.50	1272.41	2821.64	95.1*******		0.0	0.0**********		100	100
13	13	652	FIX	900	3100	1700.50	3187.50	1233.29	3025.29	90.2*******		0.0	0.0**********		100	100
13	13	656	FIX	900	3100	1912.50	425.50	1952.57	333.93	92.7*******		0.0	0.0**********		100	100
13	13	657	FIX	900	3100	1912.50	637.50	1912.71	540.17	86.4*******		0.0	0.0**********		100	100
13	13	658	FIX	900	3100	1912.50	850.50	1873.16	749.59	92.0*******		0.0	0.0**********		100	100
13	13	659	FIX	900	3100	1912.50	1062.50	1833.52	958.47	89.3*******		0.0	0.0**********		100	100
13	13	660	FIX	900	3100	1912.50	1275.50	1794.52	1169.26	86.6*******		0.0	0.0**********		100	100
13	13	661	FIX	900	3100	1912.50	1487.50	1755.26	1380.73	89.8*******		0.0	0.0**********		100	100
13	13	662	FIX	900	3100	1912.50	1700.50	1715.99	1597.17	90.8*******		0.0	0.0**********		100	100
13	13	663	FIX	900	3100	1912.50	1912.50	1676.92	1810.33	95.1*******		0.0	0.0**********		100	100
13	13	664	FIX	900	3100	1912.50	2125.50	1637.26	2023.35	81.2*******		0.0	0.0**********		100	100

LANDSAT DIGITAL MOSAIC TiePOINT DATA SET

CASE RGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
13	13	665	FIX	900 3100	1912.50	2337.50	1597.90	2239.33	82.9*******	0.0	0.0**********		100	100
13	13	666	FIX	900 3100	1912.50	2550.50	1558.58	2447.12	79.3*******	0.0	0.0**********		100	100
13	13	668	FIX	900 3100	1912.50	2975.50	1480.58	2859.81	80.3*******	0.0	0.0**********		100	100
13	13	669	FIX	900 3100	1912.50	3187.50	1442.38	3061.72	100.6*******	0.0	0.0**********		100	100
13	13	672	FIX	900 3100	2125.50	212.50	2201.04	183.95	101.5*******	0.0	0.0**********		100	100
13	13	674	FIX	900 3100	2125.50	637.50	2120.98	600.29	94.7*******	0.0	0.0**********		100	100
13	13	675	FIX	900 3100	2125.50	850.50	2081.81	809.34	94.7*******	0.0	0.0**********		100	100
13	13	676	FIX	900 3100	2125.50	1062.50	2043.18	1018.47	89.9*******	0.0	0.0**********		100	100
13	13	677	FIX	900 3100	2125.50	1275.50	2003.59	1222.34	87.0*******	0.0	0.0**********		100	100
13	13	678	FIX	900 3100	2125.50	1487.50	1964.44	1427.23	70.8*******	0.0	0.0**********		100	100
13	13	679	FIX	900 3100	2125.50	1700.50	1924.42	1638.31	92.7*******	0.0	0.0**********		100	100
13	13	680	FIX	900 3100	2125.50	1912.50	1885.72	1850.40	89.6*******	0.0	0.0**********		100	100
13	13	681	FIX	900 3100	2125.50	2125.50	1846.03	2062.33	75.0*******	0.0	0.0**********		100	100
13	13	682	FIX	900 3100	2125.50	2337.50	1806.86	2273.54	93.6*******	0.0	0.0**********		100	100
13	13	683	FIX	900 3100	2125.50	2550.50	1767.45	2485.20	88.4*******	0.0	0.0**********		100	100
13	13	684	FIX	900 3100	2125.50	2762.50	1727.72	2697.41	84.0*******	0.0	0.0**********		100	100
13	13	685	FIX	900 3100	2125.50	2975.50	1689.59	2898.02	70.8*******	0.0	0.0**********		100	100
13	13	689	FIX	900 3100	2337.50	212.50	2409.04	224.79	97.3*******	0.0	0.0**********		100	100
13	13	690	FIX	900 3100	2337.50	425.50	2369.86	431.63	76.4*******	0.0	0.0**********		100	100
13	13	691	FIX	900 3100	2337.50	637.50	2329.88	640.38	93.9*******	0.0	0.0**********		100	100
13	13	692	FIX	900 3100	2337.50	850.50	2290.01	849.40	92.9*******	0.0	0.0**********		100	100
13	13	693	FIX	900 3100	2337.50	1062.50	2251.28	1054.47	110.4*******	0.0	0.0**********		100	100
13	13	694	FIX	900 3100	2337.50	1275.50	2211.17	1261.39	85.5*******	0.0	0.0**********		100	100
13	13	695	FIX	900 3100	2337.50	1487.50	2173.40	1466.01	87.8*******	0.0	0.0**********		100	100
13	13	696	FIX	900 3100	2337.50	1700.50	2133.21	1679.01	91.0*******	0.0	0.0**********		100	100
13	13	697	FIX	900 3100	2337.50	1912.50	2094.10	1891.49	89.3*******	0.0	0.0**********		100	100
13	13	698	FIX	900 3100	2337.50	2125.50	2054.00	2104.30	96.3*******	0.0	0.0**********		100	100
13	13	699	FIX	900 3100	2337.50	2337.50	2014.82	2315.38	80.9*******	0.0	0.0**********		100	100
13	13	700	FIX	900 3100	2337.50	2550.50	1974.72	2529.45	70.8*******	0.0	0.0**********		100	100
13	13	701	FIX	900 3100	2337.50	2762.50	1936.92	2731.65	75.0*******	0.0	0.0**********		100	100
13	13	702	FIX	900 3100	2337.50	2975.50	1898.11	2933.55	66.2*******	0.0	0.0**********		100	100
13	13	707	FIX	900 3100	2550.50	425.50	2578.75	471.99	93.3*******	0.0	0.0**********		100	100
13	13	708	FIX	900 3100	2550.50	637.50	2538.88	680.44	98.5*******	0.0	0.0**********		100	100
13	13	709	FIX	900 3100	2550.50	850.50	2499.37	888.24	84.4*******	0.0	0.0**********		100	100
13	13	710	FIX	900 3100	2550.50	1062.50	2460.83	1093.50	83.7*******	0.0	0.0**********		100	100
13	13	711	FIX	900 3100	2550.50	1275.50	2421.34	1299.18	91.6*******	0.0	0.0**********		100	100
13	13	713	FIX	900 3100	2550.50	1700.50	2342.70	1720.49	93.4*******	0.0	0.0**********		100	100
13	13	714	FIX	900 3100	2550.50	1912.50	2303.28	1933.81	72.2*******	0.0	0.0**********		100	100
13	13	715	FIX	900 3100	2550.50	2125.50	2263.10	2144.30	80.5*******	0.0	0.0**********		100	100
13	13	716	FIX	900 3100	2550.50	2337.50	2224.45	2350.24	88.4*******	0.0	0.0**********		100	100
13	13	717	FIX	900 3100	2550.50	2550.50	2184.27	2561.63	76.6*******	0.0	0.0**********		100	100
13	13	719	FIX	900 3100	2550.50	2975.50	2107.23	2973.49	82.9*******	0.0	0.0**********		100	100
13	13	723	FIX	900 3100	2762.50	212.50	2827.11	304.83	90.3*******	0.0	0.0**********		100	100
13	13	724	FIX	900 3100	2762.50	425.50	2787.33	311.87	90.3*******	0.0	0.0**********		100	100
13	13	725	FIX	900 3100	2762.50	637.50	2748.18	718.03	94.5*******	0.0	0.0**********		100	100
13	13	726	FIX	900 3100	2762.50	850.50	2708.31	927.22	75.0*******	0.0	0.0**********		100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE KGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTER-FRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
13	13	724	FIX	900	3100	2762.50	1062.50	2669.53	1133.81	89.0*******		0.0	0.0*********		100	100
13	13	725	FIX	900	3100	2762.50	1487.50	2590.67	1551.19	83.9*******		0.0	0.0*********		100	100
13	13	730	FIX	900	3100	2762.50	1700.50	2550.97	1762.44	83.4*******		0.0	0.0*********		100	100
13	13	731	FIX	900	3100	2762.50	1912.50	2511.68	1975.70	84.6*******		0.0	0.0*********		100	100
13	13	732	FIX	900	3100	2762.50	2125.50	2471.87	2188.98	81.8*******		0.0	0.0*********		100	100
13	13	733	FIX	900	3100	2762.50	2337.50	2432.55	2390.52	74.1*******		0.0	0.0*********		100	100
13	13	734	FIX	900	3100	2762.50	2550.50	2392.95	2597.32	67.7*******		0.0	0.0*********		100	100
13	13	735	FIX	900	3100	2762.50	2762.50	2354.54	2806.22	82.3*******		0.0	0.0*********		100	100
13	13	744	FIX	900	3100	2975.50	1062.50	2878.97	1171.99	97.2*******		0.0	0.0*********		100	100
13	13	746	FIX	900	3100	2975.50	1487.50	2799.46	1594.40	72.3*******		0.0	0.0*********		100	100
13	13	747	FIX	900	3100	2975.50	1700.50	2759.50	1806.57	103.0*******		0.0	0.0*********		100	100
13	13	748	FIX	900	3100	2975.50	1912.50	2720.77	2018.79	74.6*******		0.0	0.0*********		100	100
13	13	749	FIX	900	3100	2975.50	2125.50	2680.64	2227.03	73.8*******		0.0	0.0*********		100	100
13	13	750	FIX	900	3100	2975.50	2337.50	2641.31	2435.12	80.9*******		0.0	0.0*********		100	100
13	13	751	FIX	900	3100	2975.50	2550.50	2602.25	2643.20	80.8*******		0.0	0.0*********		100	100
13	13	752	FIX	900	3100	2975.50	2762.50	2563.77	2850.31	73.7*******		0.0	0.0*********		100	100
13	13	766	FIX	900	3100	3187.50	2125.50	2889.38	2203.05	78.3*******		0.0	0.0*********		100	100
13	13	767	FIX	900	3100	3187.50	2337.50	2849.25	2409.93	75.5*******		0.0	0.0*********		100	100
13	13	769	FIX	900	3100	3187.50	2762.50	2772.98	2882.05	66.9*******		0.0	0.0*********		100	100
13	14	1	MOVE	900	3100	2878.21	142.40	2953.67	257.58	51.5	51.4	0.0	-0.5	0.1	100	100
13	14	2	MOVE	900	3100	2890.19	237.15	2953.72	353.39	60.4	60.5	0.1	-0.3	-0.1	100	100
13	14	3	MOVE	900	3100	2914.38	333.19	2953.71	450.60	58.8	58.7	0.2	-0.4	0.2	100	100
13	14	4	MOVE	900	3100	2932.46	428.24	2953.84	546.63	51.3	51.4	0.2	-0.5	-0.0	100	100
13	14	5	MOVE	900	3100	2950.90	524.22	2954.33	643.61	52.2	52.1	0.0	-0.6	0.2	100	100
13	14	6	MOVE	900	3100	2969.13	620.25	2954.40	740.61	56.9	57.0	0.1	-0.7	-0.1	100	100
13	14	7	MOVE	900	3100	2987.16	715.28	2954.45	836.55	24.0	24.5	0.1	-0.8	-0.4	100	100
13	14	8	MOVE	900	3100	3005.37	811.39	2954.48	933.57	42.6	42.7	0.2	-0.8	-0.1	100	100
13	14	9	MOVE	900	3100	3023.57	907.83	2954.50	1030.00	55.6	55.7	0.2	-0.6	-0.0	100	100
13	14	10	MOVE	900	3100	3041.56	1003.14	2954.56	1126.65	49.1	49.4	0.2	-0.3	-0.3	100	100
13	14	11	MOVE	900	3100	3059.63	1098.26	2954.59	1223.60	52.3	52.4	0.3	-0.6	-0.1	100	100
13	14	12	MOVE	900	3100	3077.64	1192.61	2954.62	1320.04	48.3	48.0	0.3	-0.9	0.3	100	100
13	14	13	MOVE	900	3100	3095.48	1285.94	2954.73	1416.03	56.0	56.3	0.3	-1.2	-0.2	100	100
13	14	14	MOVE	900	3100	3113.73	1380.21	2955.29	1513.62	58.0	58.0	0.1	-1.5	0.0	100	100
13	14	15	MOVE	900	3100	3131.69	1474.54	2955.28	1610.03	58.8	58.8	0.1	-1.8	0.0	100	100
13	14	16	MOVE	900	3100	3149.67	1568.97	2955.33	1707.59	51.9	51.8	0.1	-1.9	0.1	100	100
13	14	17	MOVE	900	3100	3167.50	1662.48	2955.44	1803.82	54.5	54.8	0.1	-2.0	-0.3	100	100
13	14	18	MOVE	900	3100	3185.47	1756.97	2955.48	1900.02	53.7	53.7	0.1	-2.2	-0.0	100	100
13	14	19	MOVE	900	3100	3203.26	1850.48	2955.53	1996.02	49.4	49.5	0.1	-2.3	-0.1	100	100
13	14	20	MOVE	900	3100	3221.23	1944.96	2955.58	2093.02	51.2	51.2	0.1	-2.4	-0.1	100	100
13	14	21	MOVE	900	3100	3239.07	2039.09	2955.61	2190.02	55.5	55.5	-0.0	-2.9	-0.0	100	100
13	14	22	MOVE	900	3100	3257.05	2133.23	2956.10	2286.70	58.4	58.4	-0.3	-3.1	0.0	100	100
13	14	23	MOVE	900	3100	3275.04	2229.22	2956.16	2383.67	58.0	58.3	-0.3	-3.3	-0.2	100	100
13	14	24	MOVE	900	3100	3293.09	2325.49	2956.34	2480.05	49.2	49.4	-0.4	-3.5	-0.2	100	100
13	14	25	MOVE	900	3100	3311.00	2421.30	2956.42	2576.81	53.6	53.7	-0.3	-3.1	-0.1	100	100
13	14	26	MOVE	900	3100	3329.17	2518.21	2956.45	2673.62	51.2	51.2	-0.1	-2.6	0.0	100	100
13	14	27	MOVE	900	3100	3347.34	2614.98	2956.50	2770.58	43.8	43.8	0.1	-2.3	0.1	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE RGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
13	14	28	MOVE	900	3100	3365.31	2710.38	2956.58	2800.87	54.4	54.3	0.3	-2.1	0.0	100	100
13	14	29	MOVE	900	3100	3383.38	2806.01	2956.61	2903.62	51.1	51.2	0.4	-2.0	-0.2	100	100
13	14	30	MOVE	900	3100	3401.70	2901.16	2957.21	3000.66	53.4	53.3	0.2	-2.0	0.2	100	100
13	14	31	MOVE	900	3100	3419.76	2996.34	2957.29	3157.66	51.3	51.2	0.2	-2.0	0.1	100	100
13	14	60	MOVE	900	3100	3372.08	3048.82	2900.50	3200.50	50.6	50.6	0.4	-2.1	-0.1	100	100
13	14	61	MOVE	900	3100	3354.14	2953.63	2900.50	3100.50	55.7	55.7	0.4	-2.1	0.0	100	100
13	14	62	MOVE	900	3100	3336.18	2858.45	2900.50	3000.50	57.9	57.9	0.4	-2.0	-0.0	100	100
13	14	63	MOVE	900	3100	3318.18	2763.06	2900.50	2900.50	52.3	52.4	0.4	-2.0	-0.1	100	100
13	14	64	MOVE	900	3100	3300.13	2667.16	2900.50	2800.50	47.8	47.7	0.2	-2.1	0.0	100	100
13	14	65	MOVE	900	3100	3282.20	2571.36	2900.50	2700.50	50.0	49.9	0.1	-2.4	0.0	100	100
13	14	66	MOVE	900	3100	3264.07	2474.57	2900.50	2600.50	51.0	50.9	-0.1	-2.7	0.1	100	100
13	14	67	MOVE	900	3100	3245.97	2377.77	2900.50	2500.50	56.9	56.7	-0.3	-3.1	0.1	100	100
13	14	68	MOVE	900	3100	3228.11	2281.14	2900.50	2400.50	52.5	52.4	-0.2	-3.3	0.1	100	100
13	14	69	MOVE	900	3100	3210.41	2186.21	2900.50	2300.50	57.1	57.2	-0.2	-2.8	-0.1	100	100
13	14	70	MOVE	900	3100	3192.51	2090.71	2900.50	2200.50	52.0	52.1	-0.2	-2.2	-0.1	100	100
13	14	71	MOVE	900	3100	3174.65	1996.39	2900.50	2100.50	55.4	55.4	-0.1	-2.0	0.0	100	100
13	14	72	MOVE	900	3100	3156.77	1901.93	2900.50	2000.50	55.0	55.0	-0.1	-1.9	-0.0	100	100
13	14	73	MOVE	900	3100	3138.83	1807.41	2900.50	1941.50	54.5	54.5	-0.1	-1.8	0.0	100	100
13	14	74	MOVE	900	3100	3121.09	1713.88	2900.50	1845.50	54.1	54.1	-0.1	-1.7	0.0	100	100
13	14	75	MOVE	900	3100	3103.19	1619.36	2900.50	1748.50	52.5	52.5	-0.0	-1.6	0.0	100	100
13	14	76	MOVE	900	3100	3085.53	1524.80	2900.50	1651.50	49.9	50.1	0.2	-1.5	-0.2	100	100
13	14	77	MOVE	900	3100	3067.55	1430.31	2900.50	1554.50	58.9	57.0	0.2	-1.4	-0.1	100	100
13	14	78	MOVE	900	3100	3049.81	1336.86	2900.50	1456.50	53.6	53.7	0.2	-1.2	-0.1	100	100
13	14	79	MOVE	900	3100	3031.91	1242.43	2900.50	1361.50	48.8	48.7	0.2	-1.0	0.0	100	100
13	14	80	MOVE	900	3100	3013.98	1148.00	2900.50	1264.50	60.3	60.3	0.2	-0.8	0.1	100	100
13	14	81	MOVE	900	3100	2996.03	1053.45	2900.50	1167.50	49.6	49.8	0.2	-0.5	-0.2	100	100
13	14	82	MOVE	900	3100	2977.93	957.45	2900.50	1070.50	55.6	55.6	0.2	-0.5	-0.0	100	100
13	14	83	MOVE	900	3100	2959.97	862.05	2900.50	974.50	54.4	54.4	0.2	-0.7	-0.0	100	100
13	14	84	MOVE	900	3100	2941.80	765.79	2900.50	877.50	49.2	49.1	0.2	-0.8	0.1	100	100
13	14	85	MOVE	900	3100	2923.63	669.72	2900.50	780.50	54.8	54.7	0.1	-0.7	0.2	100	100
13	14	86	MOVE	900	3100	2905.45	573.67	2900.50	683.50	57.2	57.1	0.1	-0.6	0.1	100	100
13	14	87	MOVE	900	3100	2887.49	478.03	2900.50	587.50	55.0	55.1	0.0	-0.5	-0.1	100	100
13	14	88	MOVE	900	3100	2869.50	382.51	2900.50	490.50	54.8	55.0	0.2	-0.5	-0.2	100	100
13	14	89	MOVE	900	3100	2851.38	286.47	2900.50	393.50	55.2	55.3	0.2	-0.4	-0.1	100	100
13	14	90	MOVE	900	3100	2833.20	190.61	2900.50	296.50	53.5	53.4	0.0	-0.4	0.1	100	100
13	14	91	MOVE	900	3100	2815.27	95.96	2900.50	200.50	57.6	57.8	-0.1	-0.6	-0.1	100	100
13	15	21	MOVE	900	3100	459.57	2710.02	100.50	2333.50	62.3	52.8	-0.5	0.4	9.5	100	100
13	15	22	MOVE	900	3100	477.20	2804.21	100.50	2429.50	65.3	56.6	-0.7	-0.0	8.7	100	100
13	15	23	MOVE	900	3100	495.44	2900.14	100.50	2526.50	63.1	52.7	-0.5	-0.0	10.3	100	100
13	15	24	MOVE	900	3100	513.82	2995.79	100.50	2623.50	64.2	55.8	-0.2	-0.4	8.4	100	100
13	15	25	MOVE	900	3100	531.82	3091.09	100.50	2719.50	52.0	42.7	-0.0	-0.1	9.3	100	100
13	15	26	MOVE	900	3100	549.70	3187.78	100.50	2816.50	59.3	50.5	-0.2	0.6	8.8	100	100
13	15	27	MOVE	900	3100	567.93	3284.11	100.50	2913.50	67.4	59.3	0.1	1.6	8.1	100	100
13	15	28	MOVE	900	3100	585.75	3379.42	100.50	3009.50	62.1	54.7	0.2	2.7	7.3	100	100
13	15	29	MOVE	900	3100	603.49	3475.28	100.50	3106.50	59.1	64.1	-0.0	3.3	-4.9	100	100
13	15	30	MOVE	900	3100	621.60	3569.96	100.50	3203.50	61.5	53.8	0.2	2.8	7.7	100	100

CASE MOM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
13	15	31	MOVE	900	3100	639.45	3664.61	100.50	3300.50	62.3	56.5	0.1	2.2	5.8	100	100
13	15	32	MOVE	900	3100	732.72	3643.02	196.50	3296.50	63.5	58.5	-0.3	2.3	5.0	100	100
13	15	33	MOVE	900	3100	828.08	3623.55	293.50	3293.50	64.1	56.2	-0.1	0.8	7.9	100	100
13	15	34	MOVE	900	3100	921.36	3601.92	389.50	3289.50	63.4	56.0	-0.4	-0.4	7.4	100	100
13	15	35	MOVE	900	3100	1015.32	3580.54	486.50	3286.50	59.6	53.5	-0.1	1.2	6.1	100	100
13	15	36	MOVE	900	3100	1107.86	3558.59	582.50	3282.50	60.2	60.4	-0.2	2.6	7.8	100	100
13	15	37	MOVE	900	3100	1202.87	3538.21	679.50	3279.50	62.1	54.1	0.1	2.7	8.0	100	100
13	15	38	MOVE	900	3100	1296.70	3517.39	775.50	3275.50	63.6	53.8	0.3	2.7	9.9	100	100
13	15	39	MOVE	900	3100	1392.08	3497.07	872.50	3272.50	60.9	60.3	0.3	2.4	8.6	100	100
13	15	40	MOVE	900	3100	1485.32	3475.82	968.50	3268.50	60.2	56.5	0.9	2.0	9.7	100	100
13	15	41	MOVE	900	3100	1579.97	3454.95	1065.50	3265.50	57.6	49.2	0.5	1.1	8.4	100	100
13	15	42	MOVE	900	3100	1674.58	3433.98	1162.50	3262.50	61.1	58.8	0.3	0.2	2.3	100	100
13	15	43	MOVE	900	3100	1768.53	3412.61	1258.50	3258.50	59.7	45.2	0.1	-0.4	6.6	100	100
13	15	44	MOVE	900	3100	1863.37	3392.00	1355.50	3255.50	62.6	53.0	0.4	-1.0	9.6	100	100
13	15	45	MOVE	900	3100	1957.02	3370.93	1451.50	3251.50	60.8	51.3	0.5	-0.8	9.6	100	100
13	15	46	MOVE	900	3100	2051.96	3350.24	1548.50	3248.50	58.2	49.4	0.4	-0.5	9.6	100	100
13	15	47	MOVE	900	3100	2146.18	3328.67	1644.50	3244.50	61.3	52.2	0.5	-0.1	8.7	100	100
13	15	48	MOVE	900	3100	2240.97	3308.22	1741.50	3241.50	61.3	52.9	1.0	0.8	9.0	100	100
13	15	49	MOVE	900	3100	2335.10	3287.14	1837.50	3237.50	58.2	48.8	0.8	0.7	8.4	100	100
13	15	50	MOVE	900	3100	2429.73	3265.87	1934.50	3234.50	53.9	47.0	1.2	1.7	9.4	100	100
13	15	51	MOVE	900	3100	2524.00	3244.24	2031.50	3231.50	61.2	53.1	1.0	1.6	7.0	100	100
13	15	52	MOVE	900	3100	2618.45	3221.97	2127.50	3227.50	58.2	60.9	0.9	1.2	8.1	100	100
13	15	53	MOVE	900	3100	2713.00	3201.30	2224.50	3224.50	60.2	55.4	1.1	0.9	7.3	100	100
13	15	81	MOVE	900	3100	2725.63	3233.68	2230.68	3250.48	60.3	52.9	0.9	1.3	9.8	100	100
13	15	82	MOVE	900	3100	2708.15	3137.22	2231.57	3160.70	66.4	57.9	1.2	1.4	7.4	100	100
13	15	83	MOVE	900	3100	2690.99	3042.63	2232.43	3065.21	56.1	49.6	0.9	1.1	8.5	100	100
13	15	84	MOVE	900	3100	2673.18	2946.88	2232.39	2968.29	56.4	46.8	0.6	0.4	6.5	100	100
13	15	85	MOVE	900	3100	2655.71	2849.90	2233.13	2871.10	57.7	50.2	0.7	-0.1	9.6	100	100
13	15	86	MOVE	900	3100	2638.18	2753.46	2233.50	2774.47	58.4	51.2	0.6	0.6	7.4	100	100
13	15	87	MOVE	900	3100	2621.12	2658.14	2234.41	2678.46	58.2	49.3	0.4	0.8	7.2	100	100
13	15	88	MOVE	900	3100	2603.43	2562.14	2234.41	2581.32	58.1	53.2	0.0	0.8	6.9	100	100
13	15	89	MOVE	900	3100	2586.00	2466.39	2235.26	2484.34	63.1	54.3	-0.1	0.5	4.9	100	100
13	15	90	MOVE	900	3100	2568.08	2370.79	2235.17	2387.23	63.4	54.2	-0.2	-0.1	8.8	100	100
13	15	91	MOVE	900	3100	2550.71	2276.07	2235.54	2291.14	63.4	54.8	-0.2	-0.4	9.2	100	100
13	15	92	MOVE	900	3100	2456.13	2297.83	2138.63	2295.06	60.3	49.5	-0.3	-0.2	8.7	100	100
13	15	93	MOVE	900	3100	2362.00	2320.22	2042.35	2299.87	60.6	52.3	-0.2	-0.1	10.8	100	100
13	15	94	MOVE	900	3100	2268.61	2343.09	1946.48	2303.54	60.1	58.4	-0.1	-0.2	8.3	100	100
13	15	95	MOVE	900	3100	2174.30	2366.34	1849.78	2311.17	60.4	57.6	-0.2	-0.3	9.7	100	100
13	15	96	MOVE	900	3100	2080.77	2389.09	1753.77	2318.38	64.7	55.3	-0.2	-0.2	8.8	100	100
13	15	97	MOVE	900	3100	1986.20	2411.80	1656.74	2321.04	62.4	53.4	-0.2	-0.2	9.3	100	100
13	15	98	MOVE	900	3100	1892.83	2434.63	1561.05	2327.44	63.9	54.5	-0.2	-0.2	9.0	100	100
13	15	99	MOVE	900	3100	1798.54	2457.39	1464.60	2334.27	70.4	59.4	-0.4	1.1	10.9	100	100
13	15	100	MOVE	900	3100	1705.32	2480.25	1369.23	2338.21	62.3	53.0	-0.6	1.1	9.3	100	100
13	15	101	MOVE	900	3100	1610.41	2502.25	1271.90	2342.50	63.4	53.2	-0.3	1.2	10.2	100	100
13	15	102	MOVE	900	3100	1515.89	2525.50	1174.90	2348.42	64.5	54.9	-0.2	0.9	9.6	100	100
13	15	103	MOVE	900	3100	1422.60	2548.07	1079.52	2353.34	62.5	52.0	-0.4	1.2	10.5	100	100

CASE KGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
13	15	104	MOVE	900	3100	1328.08	2571.21	982.46	2358.04	67.3	56.7	-0.3	1.1	10.6	100	100
13	15	105	MOVE	900	3100	1234.93	2594.69	886.78	2384.28	63.1	52.5	-0.6	0.4	10.6	100	100
13	15	106	MOVE	900	3100	1140.44	2618.09	789.49	2389.65	71.0	61.3	-0.6	0.1	9.8	100	100
13	15	107	MOVE	900	3100	1046.27	2640.76	692.43	2375.50	62.9	58.8	-0.1	0.2	4.2	100	100
13	15	108	MOVE	900	3100	952.16	2663.55	595.75	2360.21	78.5	56.5	-0.2	0.5	22.0	100	100
13	15	109	MOVE	900	3100	859.32	2686.18	499.53	2385.54	64.4	54.4	-0.8	0.7	10.1	100	100
13	15	110	MOVE	900	3100	764.93	2709.82	401.28	2391.47	61.9	56.7	-0.6	0.3	5.2	100	100
13	15	111	MOVE	900	3100	670.32	2732.14	303.87	2395.22	69.7	59.5	-0.3	0.5	10.2	100	100
13	15	112	MOVE	900	3100	577.39	2755.53	208.16	2400.50	62.0	57.0	-0.4	0.5	4.9	100	100
13	15	113	MOVE	900	3100	483.18	2779.40	110.64	2406.26	58.2	52.5	-0.3	0.1	5.6	100	100
13	16	1	MOVE	900	3100	2631.43	2317.23	2307.32	2350.48	63.4	53.6	-0.5	-4.4	9.8	100	100
13	16	2	MOVE	900	3100	2649.06	2412.10	2306.66	2446.41	66.3	59.0	-0.2	-4.6	7.2	100	100
13	16	3	MOVE	900	3100	2667.43	2507.72	2306.37	2543.09	58.4	52.7	0.4	-4.1	5.7	100	100
13	16	4	MOVE	900	3100	2685.17	2602.40	2305.42	2639.26	60.9	52.2	1.4	-3.6	8.7	100	100
13	16	5	MOVE	900	3100	2703.00	2697.67	2304.75	2735.05	62.3	53.4	2.5	-2.7	8.9	100	100
13	16	6	MOVE	900	3100	2721.19	2794.25	2304.29	2833.21	63.6	55.9	3.3	-3.1	7.7	100	100
13	16	7	MOVE	900	3100	2739.15	2890.17	2303.65	2928.07	46.0	40.1	4.1	-3.9	5.8	100	100
13	16	8	MOVE	900	3100	2757.31	2986.58	2303.08	3020.20	58.2	50.4	4.7	-4.2	7.8	100	100
13	16	9	MOVE	900	3100	2775.01	3082.25	2302.99	3123.24	58.2	51.0	4.5	-4.1	7.2	100	100
13	16	10	MOVE	900	3100	2791.74	3176.91	2301.77	3219.75	55.4	49.9	4.7	-4.1	5.5	100	100
13	16	11	MOVE	900	3100	2809.17	3272.55	2301.65	3317.13	61.6	55.1	4.2	-4.1	6.4	100	100
13	16	54	MOVE	900	3100	2810.29	3174.27	2320.50	3220.50	57.3	51.8	4.7	-4.0	5.5	100	100
13	16	55	MOVE	900	3100	2904.54	3153.34	2417.50	3217.50	58.1	49.9	4.2	-3.9	8.2	100	100
13	16	56	MOVE	900	3100	2997.05	3132.46	2513.50	3213.50	60.0	53.3	3.2	-3.0	6.7	100	100
13	16	57	MOVE	900	3100	3090.22	3112.66	2610.50	3210.50	64.1	55.8	1.7	-1.8	8.3	100	100
13	16	58	MOVE	900	3100	3183.29	3091.36	2706.50	3206.50	54.2	47.6	1.2	-1.4	5.6	100	100
13	16	59	MOVE	900	3100	3277.91	3070.13	2803.50	3203.50	51.2	44.0	1.1	-1.6	7.2	100	100
13	16	60	MOVE	900	3100	3372.41	3049.51	2900.50	3200.50	56.8	50.6	0.8	-2.4	6.2	100	100
13	16	61	MOVE	900	3100	3354.27	2953.48	2900.50	3103.50	62.4	55.7	0.6	-2.2	6.7	100	100
13	16	62	MOVE	900	3100	3336.37	2857.74	2900.50	3000.50	65.0	57.9	0.6	-2.8	7.1	100	100
13	16	63	MOVE	900	3100	3318.16	2762.88	2900.50	2909.50	59.0	52.4	0.3	-2.2	6.6	100	100
13	16	64	MOVE	900	3100	3300.00	2667.23	2900.50	2812.50	53.9	47.7	0.1	-2.0	8.2	100	100
13	16	65	MOVE	900	3100	3282.25	2571.50	2900.50	2716.50	58.6	49.9	0.1	-2.3	8.7	100	100
13	16	66	MOVE	900	3100	3264.13	2475.40	2900.50	2619.50	58.6	50.9	-0.1	-1.9	7.8	100	100
13	16	67	MOVE	900	3100	3246.29	2378.59	2900.50	2522.50	67.0	56.7	0.0	-2.3	10.2	100	100
13	16	68	MOVE	900	3100	3227.89	2281.28	2900.50	2425.50	61.0	52.4	-0.5	-3.1	8.6	100	100
13	16	70	MOVE	900	3100	3192.37	2090.08	2900.50	2232.50	59.9	52.1	-0.3	-2.9	7.8	100	100
13	16	114	MOVE	900	3100	3194.04	2177.46	2885.69	2318.59	61.1	55.4	0.0	-3.4	5.7	100	100
13	16	115	MOVE	900	3100	3099.93	2199.70	2788.86	2325.71	58.4	51.2	-0.3	-2.8	7.3	100	100
13	16	116	MOVE	900	3100	3006.61	2222.32	2693.01	2329.48	60.1	50.6	-0.3	-2.6	9.5	100	100
13	16	117	MOVE	900	3100	2912.49	2245.95	2596.50	2334.32	59.1	55.1	-0.5	-2.9	4.0	100	100
13	16	118	MOVE	900	3100	2818.83	2270.22	2499.69	2340.28	65.7	54.5	-0.2	-4.0	11.2	100	100
13	16	119	MOVE	900	3100	2724.73	2293.86	2403.22	2345.15	61.0	51.6	-0.5	-4.2	9.4	100	100
14	11	1	MOVE	3700	2500	78.77	741.73	100.50	400.50	47.9	51.5	0.5	-0.2	-3.7	100	100
14	11	2	MOVE	3700	2500	96.94	836.69	100.50	496.50	61.3	60.4	0.6	-0.2	0.8	100	100
14	11	3	MOVE	3700	2500	114.93	932.85	100.50	593.50	61.5	58.8	0.4	0.1	2.7	100	100

CASE KGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
14	11	4	MOVE	3700 2500	132.92	1027.87	100.50	889.50	50.7	51.3	0.3	0.2	-0.7	100	100
14	11	5	MOVE	3700 2500	151.08	1123.96	100.50	786.50	55.4	52.2	0.1	0.3	3.2	100	100
14	11	6	MOVE	3700 2500	169.44	1220.03	100.50	683.50	52.5	56.9	0.2	0.5	-4.3	100	100
14	11	7	MOVE	3700 2500	187.51	1314.30	100.50	579.50	28.8	24.0	0.2	-0.2	4.8	100	100
14	11	8	MOVE	3700 2500	205.64	1411.20	100.50	476.50	45.1	42.6	0.1	0.6	2.4	100	100
14	11	9	MOVE	3700 2500	224.28	1508.31	100.50	373.50	59.0	55.6	0.5	1.0	3.4	100	100
14	11	10	MOVE	3700 2500	242.79	1604.10	100.50	269.50	52.3	49.1	1.0	1.3	3.2	100	100
14	11	11	MOVE	3700 2500	261.93	1700.31	100.50	166.50	55.6	52.3	2.0	2.7	3.3	100	100
14	11	14	MOVE	3700 2500	321.27	1986.35	100.50	1056.50	68.1	58.0	7.5	7.6	10.1	100	100
14	11	56	MOVE	3700 2500	250.85	1610.51	107.32	1270.86	56.9	52.9	1.0	1.7	4.0	100	100
14	11	57	MOVE	3700 2500	344.13	1586.98	201.39	1270.34	60.2	58.8	2.6	2.9	1.4	100	100
14	11	58	MOVE	3700 2500	439.29	1564.23	300.33	1200.51	50.7	49.6	1.0	2.5	1.1	100	100
14	11	59	MOVE	3700 2500	533.72	1541.55	397.35	1201.49	56.4	54.7	1.1	2.9	1.7	100	100
14	11	60	MOVE	3700 2500	628.23	1519.37	494.38	1257.24	61.3	55.8	1.2	2.9	1.5	100	100
14	11	61	MOVE	3700 2500	608.10	1422.24	493.42	1100.44	62.8	57.3	0.4	2.6	5.5	100	100
14	11	62	MOVE	3700 2500	587.55	1325.77	491.44	1003.40	61.0	56.9	0.2	1.7	4.1	100	100
14	11	63	MOVE	3700 2500	567.77	1229.96	490.25	900.45	51.4	52.2	-0.2	0.9	-0.8	100	100
14	11	64	MOVE	3700 2500	547.99	1134.22	488.60	869.47	55.4	56.0	-0.0	0.5	-0.6	100	100
14	11	65	MOVE	3700 2500	528.29	1037.30	486.80	773.37	52.1	58.7	0.3	0.2	3.5	100	100
14	11	66	MOVE	3700 2500	508.73	941.35	485.69	670.24	60.1	57.0	0.2	0.0	3.0	100	100
14	11	67	MOVE	3700 2500	489.37	848.03	484.58	579.39	52.5	48.2	0.2	-0.2	4.3	100	100
14	11	68	MOVE	3700 2500	469.69	752.66	482.65	482.43	64.0	54.9	0.5	0.2	9.1	100	100
14	11	69	MOVE	3700 2500	450.51	658.18	481.50	386.41	64.2	61.3	0.5	0.6	2.9	100	100
14	11	70	MOVE	3700 2500	430.87	562.79	479.78	289.28	57.0	54.2	0.9	1.0	2.8	100	100
14	11	116	MOVE	3700 2500	452.35	643.78	486.50	376.50	56.5	53.6	0.1	0.9	2.9	100	100
14	11	117	MOVE	3700 2500	359.13	667.99	389.50	379.50	60.9	57.9	0.8	0.5	3.0	100	100
14	11	118	MOVE	3700 2500	265.58	692.17	293.50	380.50	59.6	61.6	0.3	-0.1	-2.0	100	100
14	11	119	MOVE	3700 2500	171.58	717.05	196.50	383.50	57.2	55.7	0.3	-0.1	1.5	100	100
14	12	22	MOVE	3700 2500	498.39	603.33	536.26	340.50	63.9	56.5	3.3	1.3	7.3	100	100
14	12	23	MOVE	3700 2500	518.36	698.89	537.19	437.51	63.6	55.0	4.1	0.9	8.6	100	100
14	12	24	MOVE	3700 2500	538.36	794.10	538.61	534.23	62.6	54.9	4.6	0.3	7.8	100	100
14	12	26	MOVE	3700 2500	576.91	983.70	542.31	720.90	63.0	54.6	3.3	1.1	8.4	100	100
14	12	27	MOVE	3700 2500	596.04	1079.34	543.43	823.61	62.8	55.6	2.8	1.2	7.2	100	100
14	12	28	MOVE	3700 2500	614.32	1174.52	545.30	919.59	61.3	57.8	1.1	1.9	3.6	100	100
14	12	29	MOVE	3700 2500	632.66	1270.34	547.38	1016.44	63.6	54.7	-0.9	2.9	8.9	100	100
14	12	30	MOVE	3700 2500	652.02	1365.52	548.50	1113.50	52.0	46.7	-0.9	2.5	5.3	100	100
14	12	31	MOVE	3700 2500	672.60	1461.16	550.35	1210.30	63.8	57.4	-0.4	2.1	6.4	100	100
14	12	32	MOVE	3700 2500	765.62	1437.37	646.35	1200.37	60.5	53.0	-0.3	1.8	7.5	100	100
14	12	33	MOVE	3700 2500	859.86	1414.97	743.42	1200.33	59.0	54.8	-0.4	1.2	4.1	100	100
14	12	34	MOVE	3700 2500	952.68	1391.59	838.68	1199.74	51.8	45.6	-0.2	0.8	6.2	100	100
14	12	35	MOVE	3700 2500	1047.02	1368.78	935.50	1189.50	63.9	56.1	-0.2	0.8	7.8	100	100
14	12	36	MOVE	3700 2500	1140.38	1345.83	1031.52	1104.51	59.9	56.8	-0.5	0.1	3.1	100	100
14	12	37	MOVE	3700 2500	1234.89	1323.72	1128.48	1100.39	60.7	55.8	-0.6	-0.6	4.9	100	100
14	12	38	MOVE	3700 2500	1328.13	1300.30	1224.44	1174.73	62.2	53.8	-0.7	-0.8	8.4	100	100
14	12	39	MOVE	3700 2500	1422.47	1277.31	1321.36	1170.35	60.0	57.5	-0.7	-0.6	2.4	100	100
14	12	40	MOVE	3700 2500	1515.21	1253.72	1416.56	1164.77	57.5	53.2	-0.3	-0.5	4.2	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE NOM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
14 12	41	MOVE	3700 2500	1609.44	1230.96	1513.50	1100.35	49.3	50.9	-0.2	-0.5	-1.6	100	100
14 12	42	MOVE	3700 2500	1703.68	1207.88	1610.43	1100.58	58.3	52.6	-0.1	-0.2	5.8	100	100
14 12	43	MOVE	3700 2500	1796.95	1184.61	1706.40	1100.33	57.3	52.7	-0.2	-0.4	4.6	100	100
14 12	44	MOVE	3700 2500	1891.08	1162.04	1802.81	1145.69	58.6	50.1	0.1	-0.5	8.5	100	100
14 12	45	MOVE	3700 2500	1984.21	1138.34	1898.64	1139.93	62.6	55.7	0.1	-0.2	6.9	100	100
14 12	46	MOVE	3700 2500	2078.59	1115.97	1995.49	1135.55	67.2	61.1	0.1	-0.5	6.1	100	100
14 12	47	MOVE	3700 2500	2171.84	1092.50	2091.51	1129.73	58.8	55.8	0.0	-0.4	3.1	100	100
14 12	48	MOVE	3700 2500	2266.22	1069.85	2188.40	1124.59	60.9	62.0	0.1	-0.2	-1.2	100	100
14 12	50	MOVE	3700 2500	2453.62	1024.36	2380.59	1115.25	63.4	54.4	0.6	-0.6	9.1	100	100
14 12	52	MOVE	3700 2500	2640.76	978.53	2573.64	1104.57	61.5	49.4	0.2	-0.6	12.1	100	100
14 12	53	MOVE	3700 2500	2735.33	956.02	2670.60	1099.60	66.0	52.8	0.2	-0.6	13.2	100	100
14 12	54	MOVE	3700 2500	2829.38	932.78	2767.18	1094.54	63.0	58.6	0.2	-1.2	4.4	100	100
14 12	55	MOVE	3700 2500	2924.30	910.18	2864.38	1090.30	60.5	58.0	0.4	-1.9	2.5	100	100
14 12	56	MOVE	3700 2500	3017.23	686.70	2959.67	1084.33	63.1	59.6	0.8	-1.9	3.5	100	100
14 12	81	MOVE	3700 2500	2975.02	980.37	2900.50	1107.50	59.5	63.0	1.0	-1.8	-3.5	100	100
14 12	82	MOVE	3700 2500	2956.02	884.21	2900.50	1070.30	61.4	59.0	0.4	-1.6	2.4	100	100
14 12	83	MOVE	3700 2500	2937.44	788.79	2900.50	974.30	66.0	67.7	0.0	-1.6	-1.8	100	100
14 12	84	MOVE	3700 2500	2918.91	692.68	2900.50	877.50	60.1	56.9	-0.2	-1.3	3.2	100	100
14 12	85	MOVE	3700 2500	2900.44	596.16	2900.50	780.30	69.2	63.4	-0.3	-1.3	5.8	100	100
14 12	86	MOVE	3700 2500	2882.17	499.89	2900.50	683.50	64.4	62.0	-0.2	-1.1	2.5	100	100
14 12	87	MOVE	3700 2500	2864.29	404.83	2900.50	587.50	69.7	67.0	0.2	-0.6	2.7	100	100
14 12	88	MOVE	3700 2500	2845.50	308.36	2900.50	490.30	63.7	58.0	-0.3	-0.6	5.7	100	100
14 12	89	MOVE	3700 2500	2827.31	211.82	2900.50	393.30	60.9	69.7	-0.1	-0.6	-8.8	100	100
14 12	90	MOVE	3700 2500	2809.02	116.12	2900.50	296.30	64.8	67.1	-0.3	-1.4	-2.3	100	100
14 12	91	MOVE	3700 2500	2791.23	22.84	2900.50	200.30	62.6	66.5	-0.8	-3.0	-3.9	100	100
14 12	92	MOVE	3700 2500	2697.61	46.47	2803.50	206.50	64.0	59.6	-0.2	-2.6	4.4	100	100
14 12	93	MOVE	3700 2500	2603.43	71.24	2706.50	213.50	61.4	57.7	-0.5	-1.6	3.7	100	100
14 12	94	MOVE	3700 2500	2510.32	95.59	2610.50	220.50	66.8	61.3	-0.7	-1.1	5.5	100	100
14 12	95	MOVE	3700 2500	2416.96	120.73	2513.50	227.50	66.5	62.5	-0.2	-1.2	4.0	100	100
14 12	96	MOVE	3700 2500	2323.79	145.64	2417.50	234.50	74.0	66.6	-0.5	-1.4	7.4	100	100
14 12	97	MOVE	3700 2500	2229.99	171.50	2320.50	241.50	69.2	68.3	-0.4	-1.5	1.0	100	100
14 12	99	MOVE	3700 2500	2043.30	223.83	2127.50	255.50	68.3	63.7	-0.7	-2.4	4.7	100	100
14 12	100	MOVE	3700 2500	1949.87	248.37	2031.50	262.50	71.7	64.8	-1.0	-2.0	6.9	100	100
14 12	101	MOVE	3700 2500	1855.73	271.80	1934.50	268.50	64.0	63.4	-0.8	-1.9	0.6	100	100
14 12	103	MOVE	3700 2500	1668.70	321.24	1741.50	282.50	68.5	59.7	-0.6	-0.8	6.8	100	100
14 12	104	MOVE	3700 2500	1574.32	346.01	1644.50	289.50	65.8	62.2	-0.8	-0.6	3.5	100	100
14 12	105	MOVE	3700 2500	1481.87	371.18	1548.50	296.50	69.6	63.4	-0.2	-0.0	6.2	100	100
14 12	106	MOVE	3700 2500	1387.82	395.19	1451.50	303.50	62.9	55.1	-0.2	-0.9	7.7	100	100
14 12	107	MOVE	3700 2500	1294.43	419.81	1355.50	310.50	59.2	53.5	-0.5	-1.1	5.8	100	100
14 12	108	MOVE	3700 2500	1200.55	445.02	1258.50	317.50	61.9	57.3	-0.3	-1.0	4.6	100	100
14 12	109	MOVE	3700 2500	1107.79	470.15	1162.50	324.50	23.4	47.5	0.1	-0.8	6.0	100	100
14 12	110	MOVE	3700 2500	1013.75	495.01	1065.50	331.50	58.0	55.4	0.1	-0.9	2.6	100	100
14 12	111	MOVE	3700 2500	919.27	519.01	968.50	337.50	55.9	53.7	-0.1	-0.7	2.2	100	100
14 12	112	MOVE	3700 2500	826.78	543.50	872.50	344.50	57.0	54.6	0.4	-0.4	2.4	100	100
14 12	114	MOVE	3700 2500	641.31	593.77	679.50	358.50	60.1	57.5	2.1	0.9	2.6	100	100
14 12	115	MOVE	3700 2500	548.32	619.37	582.50	365.50	52.2	48.8	3.2	1.2	3.4	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE KOMYOO.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
14	12	116	MOVE	3700	2500	456.39	644.43	480.50	372.30	50.4	53.6	4.1	1.6	2.8	100	100
14	13	1	MOVE	3700	2500	78.21	742.40	100.50	490.30	51.4	51.5	-0.0	0.5	-0.1	100	100
14	13	2	MOVE	3700	2500	96.19	837.15	100.50	496.50	60.5	60.4	-0.1	0.3	-0.1	100	100
14	13	3	MOVE	3700	2500	114.38	933.19	100.50	503.30	58.7	58.8	-0.2	0.4	-0.2	100	100
14	13	4	MOVE	3700	2500	132.46	1028.24	100.50	509.30	51.4	51.3	-0.2	0.5	-0.0	100	100
14	13	5	MOVE	3700	2500	150.90	1124.22	100.50	700.30	52.1	52.2	-0.0	0.6	-0.2	100	100
14	13	6	MOVE	3700	2500	169.13	1220.25	100.50	883.30	57.0	56.9	-0.1	0.7	0.1	100	100
14	13	7	MOVE	3700	2500	187.16	1315.28	100.50	979.30	24.5	24.0	-0.1	0.8	0.4	100	100
14	13	8	MOVE	3700	2500	205.37	1411.39	100.50	1076.30	42.7	42.6	-0.2	0.8	0.1	100	100
14	13	9	MOVE	3700	2500	223.57	1507.83	100.50	1173.30	55.7	55.6	-0.2	0.6	0.0	100	100
14	13	10	MOVE	3700	2500	241.56	1603.14	100.50	1269.30	49.4	49.1	-0.2	0.3	0.3	100	100
14	13	11	MOVE	3700	2500	259.63	1698.26	100.50	1366.50	52.4	52.3	-0.3	0.6	-0.1	100	100
14	13	12	MOVE	3700	2500	277.64	1792.61	100.50	1462.50	48.0	48.3	-0.3	0.9	-0.3	100	100
14	13	13	MOVE	3700	2500	295.48	1885.94	100.50	1559.50	56.3	56.0	-0.3	1.2	-0.2	100	100
14	13	14	MOVE	3700	2500	313.73	1980.21	100.50	1656.50	58.0	58.0	-0.1	1.5	-0.0	100	100
14	13	15	MOVE	3700	2500	331.69	2074.54	100.50	1753.50	58.8	58.8	-0.1	1.8	-0.0	100	100
14	13	16	MOVE	3700	2500	349.67	2168.97	100.50	1850.50	51.8	51.9	-0.1	1.9	-0.1	100	100
14	13	17	MOVE	3700	2500	367.5	2262.48	100.50	1940.50	54.8	54.5	-0.1	2.0	0.3	100	100
14	13	18	MOVE	3700	2500	385.47	2356.97	100.50	2043.50	53.7	53.7	-0.1	2.2	0.0	100	100
14	13	19	MOVE	3700	2500	403.26	2450.48	100.50	2139.50	49.5	49.4	-0.1	2.3	0.1	100	100
14	13	20	MOVE	3700	2500	421.23	2544.96	100.50	2236.50	51.2	51.2	-0.1	2.4	0.0	100	100
14	13	21	MOVE	3700	2500	439.07	2639.09	100.50	2333.50	55.5	55.5	-0.1	2.5	0.0	100	100
14	13	22	MOVE	3700	2500	457.05	2733.23	100.50	2429.50	50.4	50.4	0.0	2.9	-0.0	100	100
14	13	23	MOVE	3700	2500	475.04	2829.22	100.50	2526.50	58.3	58.0	0.3	3.1	-0.3	100	100
14	13	24	MOVE	3700	2500	493.09	2925.49	100.50	2623.50	49.4	49.2	0.3	3.3	0.2	100	100
14	13	25	MOVE	3700	2500	511.00	3021.30	100.50	2719.50	53.7	53.6	0.4	3.5	0.1	100	100
14	13	26	MOVE	3700	2500	529.17	3118.21	100.50	2816.50	51.2	51.2	0.3	3.1	-0.0	100	100
14	13	27	MOVE	3700	2500	547.34	3214.98	100.50	2913.50	43.8	43.8	0.1	2.6	-0.0	100	100
14	13	28	MOVE	3700	2500	565.31	3310.38	100.50	3009.50	54.3	54.4	-0.1	2.3	-0.1	100	100
14	13	29	MOVE	3700	2500	583.38	3406.01	100.50	3106.50	51.2	51.1	-0.3	2.1	-0.0	100	100
14	13	30	MOVE	3700	2500	601.70	3501.16	100.50	3203.50	53.3	53.4	-0.4	2.0	-0.2	100	100
14	13	31	MOVE	3700	2500	619.76	3596.34	100.50	3300.50	51.2	51.3	-0.2	2.0	-0.2	100	100
14	13	60	MOVE	3700	2500	572.38	3648.82	44.20	3293.20	50.6	50.6	-0.2	2.0	-0.1	100	100
14	13	61	MOVE	3700	2500	554.14	3553.63	44.25	3246.20	55.7	55.7	-0.4	2.1	-0.1	100	100
14	13	62	MOVE	3700	2500	536.18	3458.45	44.37	3149.30	57.9	57.9	-0.4	2.1	-0.0	100	100
14	13	63	MOVE	3700	2500	518.18	3363.06	44.44	3052.37	52.4	52.3	-0.4	2.0	0.0	100	100
14	13	64	MOVE	3700	2500	500.13	3267.16	44.48	2955.37	47.7	47.8	-0.4	2.1	-0.1	100	100
14	13	65	MOVE	3700	2500	482.20	3171.36	44.54	2859.32	49.9	50.0	-0.2	2.1	-0.1	100	100
14	13	66	MOVE	3700	2500	464.07	3074.57	44.59	2762.37	50.9	51.0	-0.1	2.4	-0.0	100	100
14	13	67	MOVE	3700	2500	445.97	2977.77	44.64	2665.38	50.7	50.9	0.1	2.7	-0.1	100	100
14	13	68	MOVE	3700	2500	428.11	2881.14	45.09	2568.23	26.4	56.9	0.3	3.1	-0.1	100	100
14	13	69	MOVE	3700	2500	410.41	2786.21	45.26	2472.30	57.2	52.5	0.2	3.3	-0.1	100	100
14	13	70	MOVE	3700	2500	392.51	2690.71	45.37	2375.33	52.1	57.1	0.2	2.8	-0.1	100	100
14	13	71	MOVE	3700	2500	374.65	2596.39	45.39	2278.30	55.4	52.0	0.2	2.2	-0.1	100	100
14	13	72	MOVE	3700	2500	356.77	2501.93	45.49	2181.33	55.0	55.4	0.1	2.0	-0.0	100	100
14	13	73	MOVE	3700	2500	338.83	2407.41	45.51	2084.33	54.5	55.0	0.1	1.9	-0.0	100	100
											54.5		1.8	-0.0	100	100

CASE RUN900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
14 13	74	MOVE	3700 2500	321.09	2313.88	45.54	1900.33	54.1	54.1	0.1	1.7	-0.0	100	100
14 13	75	MOVE	3700 2500	303.19	2219.36	45.63	1871.34	52.5	52.5	0.0	1.6	-0.0	100	100
14 13	76	MOVE	3700 2500	285.53	2124.80	46.22	1794.33	50.1	49.9	-0.2	1.5	0.2	100	100
14 13	77	MOVE	3700 2500	267.55	2030.31	46.18	1697.27	57.0	56.9	-0.2	1.4	0.1	100	100
14 13	78	MOVE	3700 2500	249.81	1936.86	46.24	1601.30	53.7	53.6	-0.2	1.2	0.1	100	100
14 13	79	MOVE	3700 2500	231.91	1842.43	46.33	1504.33	48.7	48.8	-0.2	1.0	-0.0	100	100
14 13	80	MOVE	3700 2500	213.98	1748.00	46.39	1407.35	60.3	60.3	-0.2	0.8	-0.1	100	100
14 13	81	MOVE	3700 2500	196.03	1653.45	46.45	1310.38	49.8	49.6	-0.2	0.5	0.2	100	100
14 13	82	MOVE	3700 2500	177.93	1557.45	46.47	1213.40	55.6	55.6	-0.2	0.5	0.0	100	100
14 13	83	MOVE	3700 2500	159.97	1462.05	46.51	1117.34	54.4	54.4	-0.2	0.7	0.0	100	100
14 13	84	MOVE	3700 2500	141.80	1365.79	46.55	1020.37	49.1	49.2	-0.2	0.8	-0.1	100	100
14 13	85	MOVE	3700 2500	123.63	1269.72	46.59	923.38	54.7	54.8	-0.1	0.7	-0.2	100	100
14 13	86	MOVE	3700 2500	105.45	1173.67	46.64	826.34	57.1	57.2	-0.1	0.6	-0.1	100	100
14 13	87	MOVE	3700 2500	87.49	1078.63	46.73	730.38	55.1	55.0	-0.0	0.5	0.1	100	100
14 13	88	MOVE	3700 2500	69.50	982.51	47.16	633.30	55.0	54.8	-0.2	0.5	0.2	100	100
14 13	89	MOVE	3700 2500	51.38	886.47	47.31	536.32	55.3	55.2	-0.2	0.4	0.1	100	100
14 13	90	MOVE	3700 2500	33.20	790.61	47.28	439.31	53.4	53.5	-0.0	0.4	-0.1	100	100
14 13	91	MOVE	3700 2500	15.27	695.96	47.28	343.30	57.8	57.6	0.1	0.6	0.1	100	100
14 14	501	FIX	3700 2500	1200.50	1100.50	1136.26	994.90	93.1*******		0.0	0.0**********		100	100
14 14	502	FIX	3700 2500	1200.50	1166.50	1122.99	1019.02	96.2*******		0.0	0.0**********		100	100
14 14	503	FIX	3700 2500	1200.50	1233.50	1110.72	1083.48	99.8*******		0.0	0.0**********		100	100
14 14	504	FIX	3700 2500	1200.50	1300.50	1098.48	1150.87	108.3*******		0.0	0.0**********		100	100
14 14	505	FIX	3700 2500	1266.50	1366.50	1150.95	1227.44	103.4*******		0.0	0.0**********		100	100
14 14	506	FIX	3700 2500	1333.50	1433.50	1204.06	1304.29	97.5*******		0.0	0.0**********		100	100
14 14	507	FIX	3700 2500	1399.50	1499.50	1257.31	1381.33	111.1*******		0.0	0.0**********		100	100
14 14	508	FIX	3700 2500	1466.50	1566.50	1309.95	1461.51	98.4*******		0.0	0.0**********		100	100
14 14	509	FIX	3700 2500	1533.50	1633.50	1363.47	1542.48	97.2*******		0.0	0.0**********		100	100
14 14	510	FIX	3700 2500	1599.50	1699.50	1416.35	1621.77	85.3*******		0.0	0.0**********		100	100
14 14	511	FIX	3700 2500	1666.50	1766.50	1469.59	1701.70	98.6*******		0.0	0.0**********		100	100
14 14	512	FIX	3700 2500	1733.50	1833.50	1522.73	1780.62	100.5*******		0.0	0.0**********		100	100
14 14	513	FIX	3700 2500	1800.50	1900.50	1575.66	1859.98	85.7*******		0.0	0.0**********		100	100
14 14	514	FIX	3700 2500	1866.50	1966.50	1646.80	1937.93	89.1*******		0.0	0.0**********		100	100
14 14	516	FIX	3700 2500	2000.50	1800.50	1790.73	1794.72	98.7*******		0.0	0.0**********		100	100
14 14	517	FIX	3700 2500	1933.50	1733.50	1737.45	1710.23	97.4*******		0.0	0.0**********		100	100
14 14	518	FIX	3700 2500	1866.50	1666.50	1684.55	1630.69	101.8*******		0.0	0.0**********		100	100
14 14	519	FIX	3700 2500	1800.50	1600.50	1631.73	1550.49	99.1*******		0.0	0.0**********		100	100
14 14	520	FIX	3700 2500	1733.50	1533.50	1579.28	1470.69	112.9*******		0.0	0.0**********		100	100
14 14	521	FIX	3700 2500	1666.50	1466.50	1525.65	1390.32	104.1*******		0.0	0.0**********		100	100
14 14	522	FIX	3700 2500	1600.50	1400.50	1473.18	1314.39	93.7*******		0.0	0.0**********		100	100
14 14	523	FIX	3700 2500	1533.50	1350.50	1415.84	1201.93	95.5*******		0.0	0.0**********		100	100
14 14	524	FIX	3700 2500	1466.50	1300.50	1359.52	1201.11	98.7*******		0.0	0.0**********		100	100
14 14	525	FIX	3700 2500	212.50	1387.50	111.60	1052.41	88.3*******		0.0	0.0**********		100	100
14 14	526	FIX	3700 2500	212.50	1600.50	72.21	1201.97	93.4*******		0.0	0.0**********		100	100
14 14	527	FIX	3700 2500	1266.50	1150.50	1191.51	1015.69	93.8*******		0.0	0.0**********		100	100
14 14	538	FIX	3700 2500	425.50	537.50	479.85	404.97	95.8*******		0.0	0.0**********		100	100
14 14	539	FIX	3700 2500	425.50	750.50	439.88	472.34	98.5*******		0.0	0.0**********		100	100

CASE KOM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
14	14	590	FIX	3700	2500	425.50	962.50	400.52	879.50	90.1	*******	0.0	0.0	**********	100	100
14	14	591	FIX	3700	2500	425.50	1175.50	360.47	887.14	99.0	*******	0.0	0.0	**********	100	100
14	14	592	FIX	3700	2500	425.50	1387.50	320.86	1093.51	82.0	*******	0.0	0.0	**********	100	100
14	14	593	FIX	3700	2500	425.50	1600.50	280.35	1302.12	93.0	*******	0.0	0.0	**********	100	100
14	14	594	FIX	3700	2500	425.50	1812.50	241.98	1508.49	92.7	*******	0.0	0.0	**********	100	100
14	14	595	FIX	3700	2500	425.50	2025.50	201.44	1721.50	84.6	*******	0.0	0.0	**********	100	100
14	14	596	FIX	3700	2500	425.50	2237.50	161.80	1934.57	89.9	*******	0.0	0.0	**********	100	100
14	14	597	FIX	3700	2500	425.50	2450.50	121.44	2140.67	81.9	*******	0.0	0.0	**********	100	100
14	14	598	FIX	3700	2500	425.50	2662.50	82.27	2357.43	82.3	*******	0.0	0.0	**********	100	100
14	14	599	FIX	3700	2500	425.50	2875.50	43.35	2562.03	80.2	*******	0.0	0.0	**********	100	100
14	14	555	FIX	3700	2500	637.50	537.50	688.02	304.59	100.9	*******	0.0	0.0	**********	100	100
14	14	556	FIX	3700	2500	637.50	750.50	648.90	510.89	85.5	*******	0.0	0.0	**********	100	100
14	14	559	FIX	3700	2500	637.50	1387.50	528.67	1122.24	99.7	*******	0.0	0.0	**********	100	100
14	14	561	FIX	3700	2500	637.50	1812.50	449.42	1553.37	82.3	*******	0.0	0.0	**********	100	100
14	14	562	FIX	3700	2500	637.50	2025.50	410.50	1757.92	88.0	*******	0.0	0.0	**********	100	100
14	14	563	FIX	3700	2500	637.50	2237.50	370.23	1974.01	80.6	*******	0.0	0.0	**********	100	100
14	14	564	FIX	3700	2500	637.50	2450.50	330.58	2180.72	88.9	*******	0.0	0.0	**********	100	100
14	14	565	FIX	3700	2500	637.50	2662.50	291.55	2390.89	82.4	*******	0.0	0.0	**********	100	100
14	14	566	FIX	3700	2500	637.50	2875.50	250.34	2600.07	81.8	*******	0.0	0.0	**********	100	100
14	14	567	FIX	3700	2500	637.50	3087.50	211.71	2811.77	82.8	*******	0.0	0.0	**********	100	100
14	14	568	FIX	3700	2500	637.50	3300.50	172.61	3019.66	92.7	*******	0.0	0.0	**********	100	100
14	14	572	FIX	3700	2500	850.50	537.50	897.46	342.58	89.8	*******	0.0	0.0	**********	100	100
14	14	573	FIX	3700	2500	850.50	750.50	857.16	550.51	99.7	*******	0.0	0.0	**********	100	100
14	14	574	FIX	3700	2500	850.50	962.50	818.20	759.31	86.0	*******	0.0	0.0	**********	100	100
14	14	575	FIX	3700	2500	850.50	1175.50	777.06	966.57	87.4	*******	0.0	0.0	**********	100	100
14	14	576	FIX	3700	2500	850.50	1387.50	736.91	1173.46	88.1	*******	0.0	0.0	**********	100	100
14	14	577	FIX	3700	2500	850.50	1600.50	698.84	1377.72	88.7	*******	0.0	0.0	**********	100	100
14	14	579	FIX	3700	2500	850.50	2025.50	619.62	1801.47	92.0	*******	0.0	0.0	**********	100	100
14	14	580	FIX	3700	2500	850.50	2237.50	580.77	2014.80	96.6	*******	0.0	0.0	**********	100	100
14	14	581	FIX	3700	2500	850.50	2450.50	540.57	2220.10	99.3	*******	0.0	0.0	**********	100	100
14	14	584	FIX	3700	2500	850.50	3087.50	420.25	2851.43	91.1	*******	0.0	0.0	**********	100	100
14	14	585	FIX	3700	2500	850.50	3300.50	381.99	3050.49	79.0	*******	0.0	0.0	**********	100	100
14	14	589	FIX	3700	2500	1062.50	537.50	1105.87	280.77	95.0	*******	0.0	0.0	**********	100	100
14	14	590	FIX	3700	2500	1062.50	750.50	1066.28	509.49	89.1	*******	0.0	0.0	**********	100	100
14	14	591	FIX	3700	2500	1062.50	962.50	1026.52	720.86	85.6	*******	0.0	0.0	**********	100	100
14	14	592	FIX	3700	2500	1062.50	1175.50	986.71	1004.51	80.5	*******	0.0	0.0	**********	100	100
14	14	593	FIX	3700	2500	1062.50	1387.50	946.80	1211.40	89.5	*******	0.0	0.0	**********	100	100
14	14	594	FIX	3700	2500	1062.50	1600.50	908.08	1419.23	110.4	*******	0.0	0.0	**********	100	100
14	14	595	FIX	3700	2500	1062.50	1812.50	868.52	1625.71	84.5	*******	0.0	0.0	**********	100	100
14	14	596	FIX	3700	2500	1062.50	2025.50	828.41	1842.79	90.7	*******	0.0	0.0	**********	100	100
14	14	597	FIX	3700	2500	1062.50	2237.50	788.84	2052.50	93.5	*******	0.0	0.0	**********	100	100
14	14	600	FIX	3700	2500	1062.50	2875.50	667.89	2662.34	80.6	*******	0.0	0.0	**********	100	100
14	14	601	FIX	3700	2500	1062.50	3087.50	629.55	2867.64	86.0	*******	0.0	0.0	**********	100	100
14	14	602	FIX	3700	2500	1062.50	3300.50	590.11	3074.51	104.8	*******	0.0	0.0	**********	100	100
14	14	606	FIX	3700	2500	1275.50	537.50	1314.78	420.49	92.8	*******	0.0	0.0	**********	100	100
14	14	607	FIX	3700	2500	1275.50	750.50	1275.01	628.65	92.2	*******	0.0	0.0	**********	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE KGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
14	14	608	FIX	3700	2500	1275.50	962.50	1235.66	834.41	88.3	0.0	0.0		100	100
14	14	609	FIX	3700	2500	1275.50	1175.50	1195.87	1041.78	88.1	0.0	0.0		100	100
14	14	610	FIX	3700	2500	1275.50	1387.50	1156.09	1249.41	102.7	0.0	0.0		100	100
14	14	611	FIX	3700	2500	1275.50	1600.50	1117.50	1456.50	90.0	0.0	0.0		100	100
14	14	612	FIX	3700	2500	1275.50	1812.50	1076.36	1672.49	97.5	0.0	0.0		100	100
14	14	614	FIX	3700	2500	1275.50	2237.50	997.43	2089.48	95.6	0.0	0.0		100	100
14	14	615	FIX	3700	2500	1275.50	2450.50	958.28	2300.93	82.1	0.0	0.0		100	100
14	14	616	FIX	3700	2500	1275.50	2662.50	917.80	2508.82	99.3	0.0	0.0		100	100
14	14	617	FIX	3700	2500	1275.50	2875.50	878.99	2718.90	90.4	0.0	0.0		100	100
14	14	618	FIX	3700	2500	1275.50	3087.50	838.47	2927.42	92.1	0.0	0.0		100	100
14	14	622	FIX	3700	2500	1487.50	325.50	1562.26	253.04	109.6	0.0	0.0		100	100
14	14	623	FIX	3700	2500	1487.50	537.50	1522.86	459.40	96.1	0.0	0.0		100	100
14	14	624	FIX	3700	2500	1487.50	750.50	1483.22	667.48	95.5	0.0	0.0		100	100
14	14	625	FIX	3700	2500	1487.50	962.50	1443.71	874.62	73.4	0.0	0.0		100	100
14	14	626	FIX	3700	2500	1487.50	1175.50	1403.62	1083.08	78.9	0.0	0.0		100	100
14	14	627	FIX	3700	2500	1487.50	1387.50	1363.33	1289.17	97.3	0.0	0.0		100	100
14	14	628	FIX	3700	2500	1487.50	1600.50	1324.85	1499.51	104.0	0.0	0.0		100	100
14	14	629	FIX	3700	2500	1487.50	1812.50	1285.06	1714.38	87.7	0.0	0.0		100	100
14	14	630	FIX	3700	2500	1487.50	2025.50	1244.63	1925.23	99.0	0.0	0.0		100	100
14	14	632	FIX	3700	2500	1487.50	2450.50	1165.75	2341.27	90.6	0.0	0.0		100	100
14	14	633	FIX	3700	2500	1487.50	2662.50	1126.38	2547.03	84.3	0.0	0.0		100	100
14	14	634	FIX	3700	2500	1487.50	2875.50	1087.52	2756.58	90.9	0.0	0.0		100	100
14	14	635	FIX	3700	2500	1487.50	3087.50	1047.34	2965.21	93.5	0.0	0.0		100	100
14	14	639	FIX	3700	2500	1700.50	325.50	1771.43	292.43	105.4	0.0	0.0		100	100
14	14	640	FIX	3700	2500	1700.50	537.50	1732.11	497.50	104.4	0.0	0.0		100	100
14	14	642	FIX	3700	2500	1700.50	962.50	1653.14	915.49	101.2	0.0	0.0		100	100
14	14	643	FIX	3700	2500	1700.50	1175.50	1613.24	1124.29	107.9	0.0	0.0		100	100
14	14	644	FIX	3700	2500	1700.50	1812.50	1493.85	1753.64	95.7	0.0	0.0		100	100
14	14	646	FIX	3700	2500	1700.50	2237.50	1414.36	2174.44	100.7	0.0	0.0		100	100
14	14	649	FIX	3700	2500	1700.50	2450.50	1375.12	2381.37	80.3	0.0	0.0		100	100
14	14	650	FIX	3700	2500	1700.50	2662.50	1335.44	2587.91	88.9	0.0	0.0		100	100
14	14	651	FIX	3700	2500	1700.50	2875.50	1295.26	2796.41	89.9	0.0	0.0		100	100
14	14	652	FIX	3700	2500	1700.50	3087.50	1254.74	3002.11	109.8	0.0	0.0		100	100
14	14	656	FIX	3700	2500	1912.50	325.50	1979.65	330.00	101.5	0.0	0.0		100	100
14	14	657	FIX	3700	2500	1912.50	537.50	1940.10	536.18	102.7	0.0	0.0		100	100
14	14	658	FIX	3700	2500	1912.50	750.50	1901.30	744.67	101.0	0.0	0.0		100	100
14	14	659	FIX	3700	2500	1912.50	962.50	1861.14	954.64	94.5	0.0	0.0		100	100
14	14	660	FIX	3700	2500	1912.50	1175.50	1821.50	1162.59	97.0	0.0	0.0		100	100
14	14	661	FIX	3700	2500	1912.50	1387.50	1781.60	1369.32	88.9	0.0	0.0		100	100
14	14	664	FIX	3700	2500	1912.50	2025.50	1661.64	2005.24	92.3	0.0	0.0		100	100
14	14	667	FIX	3700	2500	1912.50	2662.50	1544.40	2626.95	100.2	0.0	0.0		100	100
14	14	668	FIX	3700	2500	1912.50	2875.50	1503.09	2835.10	79.3	0.0	0.0		100	100
14	14	669	FIX	3700	2500	1912.50	3087.50	1463.48	3039.38	91.4	0.0	0.0		100	100
14	14	673	FIX	3700	2500	2125.50	325.50	2188.75	289.38	115.1	0.0	0.0		100	100
14	14	674	FIX	3700	2500	2125.50	537.50	2149.52	574.51	95.0	0.0	0.0		100	100
14	14	675	FIX	3700	2500	2125.50	750.50	2109.53	784.60	102.2	0.0	0.0		100	100

CASE RGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
14	14	676	FIX	3700	2500	2125.50	962.50	2070.21	995.39	97.0*******	0.0	0.0**********		100	100
14	14	677	FIX	3700	2500	2125.50	1175.50	2030.67	1201.01	98.7*******	0.0	0.0**********		100	100
14	14	678	FIX	3700	2500	2125.50	1387.50	1990.15	1406.98	87.1*******	0.0	0.0**********		100	100
14	14	679	FIX	3700	2500	2125.50	1600.50	1950.93	1617.53	103.1*******	0.0	0.0**********		100	100
14	14	683	FIX	3700	2500	2125.50	2450.50	1792.98	2403.81	89.2*******	0.0	0.0**********		100	100
14	14	684	FIX	3700	2500	2125.50	2662.50	1753.37	2608.43	83.6*******	0.0	0.0**********		100	100
14	14	689	FIX	3700	2500	2337.50	112.50	2437.00	203.79	96.3*******	0.0	0.0**********		100	100
14	14	690	FIX	3700	2500	2337.50	325.50	2396.87	410.30	108.5*******	0.0	0.0**********		100	100
14	14	691	FIX	3700	2500	2337.50	537.50	2357.84	614.70	101.3*******	0.0	0.0**********		100	100
14	14	692	FIX	3700	2500	2337.50	750.50	2317.74	824.52	102.8*******	0.0	0.0**********		100	100
14	14	693	FIX	3700	2500	2337.50	962.50	2278.41	1035.34	106.9*******	0.0	0.0**********		100	100
14	14	694	FIX	3700	2500	2337.50	1175.50	2239.02	1238.59	81.9*******	0.0	0.0**********		100	100
14	14	696	FIX	3700	2500	2337.50	1600.50	2160.26	1655.69	93.5*******	0.0	0.0**********		100	100
14	14	697	FIX	3700	2500	2337.50	1812.50	2119.57	1869.55	93.3*******	0.0	0.0**********		100	100
14	14	700	FIX	3700	2500	2337.50	2450.50	2000.17	2503.62	96.9*******	0.0	0.0**********		100	100
14	14	701	FIX	3700	2500	2337.50	2662.50	1960.46	2708.23	98.3*******	0.0	0.0**********		100	100
14	14	702	FIX	3700	2500	2337.50	2875.50	1921.55	2915.12	72.8*******	0.0	0.0**********		100	100
14	14	705	FIX	3700	2500	2550.50	-99.50	2686.42	23.76	106.3*******	0.0	0.0**********		100	100
14	14	706	FIX	3700	2500	2550.50	112.50	2646.30	244.82	107.4*******	0.0	0.0**********		100	100
14	14	707	FIX	3700	2500	2550.50	325.50	2606.78	451.50	106.1*******	0.0	0.0**********		100	100
14	14	708	FIX	3700	2500	2550.50	537.50	2566.76	656.81	107.2*******	0.0	0.0**********		100	100
14	14	709	FIX	3700	2500	2550.50	750.50	2527.65	865.35	94.0*******	0.0	0.0**********		100	100
14	14	710	FIX	3700	2500	2550.50	962.50	2488.25	1073.30	104.6*******	0.0	0.0**********		100	100
14	14	711	FIX	3700	2500	2550.50	1175.50	2448.73	1279.50	96.0*******	0.0	0.0**********		100	100
14	14	713	FIX	3700	2500	2550.50	1600.50	2368.44	1696.57	101.1*******	0.0	0.0**********		100	100
14	14	714	FIX	3700	2500	2550.50	1812.50	2328.57	1909.39	92.1*******	0.0	0.0**********		100	100
14	14	715	FIX	3700	2500	2550.50	2025.50	2288.74	2124.32	108.5*******	0.0	0.0**********		100	100
14	14	717	FIX	3700	2500	2550.50	2450.50	2208.36	2544.24	92.2*******	0.0	0.0**********		100	100
14	14	716	FIX	3700	2500	2550.50	2662.50	2170.09	2748.55	79.5*******	0.0	0.0**********		100	100
14	14	719	FIX	3700	2500	2550.50	2875.50	2130.99	2952.00	93.5*******	0.0	0.0**********		100	100
14	14	723	FIX	3700	2500	2762.50	112.50	2855.47	204.61	99.4*******	0.0	0.0**********		100	100
14	14	724	FIX	3700	2500	2762.50	325.50	2815.88	411.82	108.8*******	0.0	0.0**********		100	100
14	14	725	FIX	3700	2500	2762.50	537.50	2775.43	617.76	109.7*******	0.0	0.0**********		100	100
14	14	726	FIX	3700	2500	2762.50	750.50	2735.64	825.45	105.4*******	0.0	0.0**********		100	100
14	14	727	FIX	3700	2500	2762.50	962.50	2696.33	1110.51	49.0*******	0.0	0.0**********		100	100
14	14	730	FIX	3700	2500	2762.50	1600.50	2577.83	1735.23	90.0*******	0.0	0.0**********		100	100
14	14	731	FIX	3700	2500	2762.50	1812.50	2536.81	1940.15	89.8*******	0.0	0.0**********		100	100
14	14	732	FIX	3700	2500	2762.50	2025.50	2497.01	2101.35	90.1*******	0.0	0.0**********		100	100
14	14	735	FIX	3700	2500	2762.50	2662.50	2378.47	2705.51	77.9*******	0.0	0.0**********		100	100
14	14	736	FIX	3700	2500	2762.50	2875.50	2339.59	2907.46	62.2*******	0.0	0.0**********		100	100
14	14	744	FIX	3700	2500	2975.50	962.50	2905.64	1148.34	108.5*******	0.0	0.0**********		100	100
14	14	747	FIX	3700	2500	2975.50	1600.50	2786.49	1775.72	99.8*******	0.0	0.0**********		100	100
14	14	748	FIX	3700	2500	2975.50	1812.50	2746.52	1988.92	101.5*******	0.0	0.0**********		100	100
14	14	749	FIX	3700	2500	2975.50	2025.50	2706.46	2199.97	81.6*******	0.0	0.0**********		100	100
14	14	750	FIX	3700	2500	2975.50	2237.50	2666.58	2412.46	96.3*******	0.0	0.0**********		100	100
14	14	751	FIX	3700	2500	2975.50	2450.50	2627.13	2618.90	82.3*******	0.0	0.0**********		100	100

CASE MGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
14	14	752	FIX	3700	2500	2975.50	2662.50	2587.97	2863.71	80.2*******		0.0	0.0*********	100	100
14	14	767	FIX	3700	2500	3187.50	2237.50	2876.57	2452.91	95.8*******		0.0	0.0*********	100	100
14	14	766	FIX	3700	2500	3187.50	2450.50	2836.94	2659.77	81.4*******		0.0	0.0*********	100	100
14	14	769	FIX	3700	2500	3187.50	2662.50	2797.19	2862.24	91.8*******		0.0	0.0*********	100	100
14	141601		FIX	3700	2500	2299.00	2056.00	2037.00	2108.00	0.0*******		0.0	0.0*********	100	100
14	141602		FIX	3700	2500	2469.00	1951.00	2223.00	2034.00	0.0*******		0.0	0.0*********	100	100
14	141603		FIX	3700	2500	2186.00	2102.00	1916.00	2131.00	0.0*******		0.0	0.0*********	100	100
14	141604		FIX	3700	2500	2702.00	1173.00	2598.00	1301.00	0.0*******		0.0	0.0*********	100	100
14	141605		FIX	3700	2500	2693.00	1320.00	2559.00	1449.00	0.0*******		0.0	0.0*********	100	100
14	141606		FIX	3700	2500	2425.00	1384.00	2287.00	1452.00	0.0*******		0.0	0.0*********	100	100
14	141607		FIX	3700	2500	2449.00	1687.00	2253.00	1703.00	0.0*******		0.0	0.0*********	100	100
14	141608		FIX	3700	2500	2666.00	1669.00	2468.00	1700.00	0.0*******		0.0	0.0*********	100	100
14	141609		FIX	3700	2500	1803.00	2059.00	1549.00	2019.00	0.0*******		0.0	0.0*********	100	100
14	141610		FIX	3700	2500	2038.00	2053.00	1781.00	2055.00	0.0*******		0.0	0.0*********	100	100
14	141611		FIX	3700	2500	2056.00	2413.00	1731.00	2413.00	0.0*******		0.0	0.0*********	100	100
14	141612		FIX	3700	2500	2022.00	2791.00	1628.00	2773.00	0.0*******		0.0	0.0*********	100	100
14	141613		FIX	3700	2500	2285.00	2659.00	1910.00	2697.00	0.0*******		0.0	0.0*********	100	100
14	141614		FIX	3700	2500	2144.00	2633.00	1776.00	2644.00	0.0*******		0.0	0.0*********	100	100
14	141615		FIX	3700	2500	2046.00	3037.00	1603.00	3010.00	0.0*******		0.0	0.0*********	100	100
14	141616		FIX	3700	2500	2364.00	2909.00	1942.00	2953.00	0.0*******		0.0	0.0*********	100	100
14	141617		FIX	3700	2500	2400.00	2976.00	1964.00	3022.00	0.0*******		0.0	0.0*********	100	100
14	141618		FIX	3700	2500	2041.00	2959.00	1614.00	2940.00	0.0*******		0.0	0.0*********	100	100
14	16	21	MOVE	3700	2500	438.77	2636.13	100.50	2333.50	89.8	55.5	-0.3	-0.1 9.3	100	100
14	16	22	MOVE	3700	2500	456.85	2733.29	100.50	2429.50	88.7	58.4	0.1	0.1 10.3	100	100
14	16	23	MOVE	3700	2500	474.62	2826.09	100.50	2520.50	83.0	58.0	-0.1	0.2 5.0	100	100
14	16	24	MOVE	3700	2500	492.76	2922.86	100.50	2623.50	86.6	49.2	0.0	0.8 7.4	100	100
14	16	25	MOVE	3700	2500	511.18	3019.45	100.50	2719.50	81.9	53.6	0.4	1.2 8.4	100	100
14	16	26	MOVE	3700	2500	529.52	3116.32	100.50	2810.50	57.8	51.2	0.4	0.7 8.6	100	100
14	16	27	MOVE	3700	2500	547.60	3212.58	100.50	2913.50	51.0	43.8	-0.1	-0.1 7.1	100	100
14	16	29	MOVE	3700	2500	583.63	3403.25	100.50	3100.50	58.0	51.1	-0.1	-0.7 6.9	100	100
14	16	30	MOVE	3700	2500	601.83	3498.36	100.50	3203.50	59.5	53.4	-0.0	-0.8 6.1	100	100
14	16	32	MOVE	3700	2500	713.55	3571.21	196.50	3290.50	58.9	51.4	-0.0	-1.2 7.5	100	100
14	16	33	MOVE	3700	2500	807.98	3550.11	293.50	3293.50	59.3	50.6	-0.0	-0.4 8.7	100	100
14	16	34	MOVE	3700	2500	901.56	3528.39	389.50	3289.50	50.2	43.7	0.2	0.5 6.6	100	100
14	16	35	MOVE	3700	2500	996.66	3508.47	486.50	3286.50	56.7	49.7	0.4	1.1 6.9	100	100
14	16	36	MOVE	3700	2500	1090.37	3487.26	582.50	3282.50	51.3	43.7	0.3	1.0 7.6	100	100
14	16	37	MOVE	3700	2500	1185.13	3466.57	679.50	3279.50	58.1	52.6	0.2	1.1 5.5	100	100
14	16	38	MOVE	3700	2500	1278.71	3443.98	775.50	3275.50	55.7	49.4	0.2	0.1 6.2	100	100
14	16	39	MOVE	3700	2500	1373.75	3423.21	872.50	3272.50	54.1	51.2	0.4	0.2 3.0	100	100
14	16	40	MOVE	3700	2500	1467.79	3402.65	968.50	3268.50	60.4	54.5	0.7	1.2 5.9	100	100
14	16	41	MOVE	3700	2500	1562.75	3382.16	1065.50	3265.50	58.7	50.1	0.9	1.6 8.7	100	100
14	16	42	MOVE	3700	2500	1657.67	3361.70	1162.50	3262.50	56.1	49.0	1.0	1.9 7.1	100	100
14	16	43	MOVE	3700	2500	1751.20	3339.72	1258.50	3258.50	62.2	52.9	0.8	1.6 9.3	100	100
14	16	44	MOVE	3700	2500	1845.71	3318.66	1355.50	3255.50	60.0	51.5	0.5	1.4 8.5	100	100
14	16	45	MOVE	3700	2500	1939.12	3296.84	1451.50	3252.50	52.5	43.8	0.3	1.2 8.7	100	100
14	16	46	MOVE	3700	2500	2034.02	3275.84	1548.50	3248.50	53.8	50.6	0.4	1.0 3.2	100	100

CASE KOM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
14	16	47	MOVE	3700	2500	2127.63	3253.97	1644.50	3444.50	54.3	52.2	0.3	0.8	1.0	100	100
14	16	48	MOVE	3700	2500	2222.34	3233.07	1741.50	3241.50	61.2	53.0	0.2	0.7	8.2	100	100
14	16	49	MOVE	3700	2500	2315.71	3211.67	1837.50	3237.50	55.5	55.2	-0.1	0.9	0.4	100	100
14	16	50	MOVE	3700	2500	2410.91	3191.20	1934.50	3234.50	56.4	50.0	0.3	1.2	6.4	100	100
14	16	51	MOVE	3700	2500	2505.68	3170.51	2031.50	3231.50	57.9	50.4	0.3	1.0	7.5	100	100
14	16	52	MOVE	3700	2500	2598.95	3147.90	2127.50	3227.50	55.3	49.7	0.1	-0.5	5.6	100	100
14	16	53	MOVE	3700	2500	2693.51	3125.80	2224.50	3224.50	50.7	47.7	-0.1	-2.3	5.0	100	100
14	16	54	MOVE	3700	2500	2782.27	3107.41	2320.50	3220.50	60.1	54.2	-4.8	0.7	5.9	100	100
14	16	81	MOVE	3700	2500	2728.68	3202.80	2244.58	3300.50	54.5	46.6	0.1	-2.2	7.9	100	100
14	16	82	MOVE	3700	2500	2710.89	3107.68	2244.79	3209.71	57.7	50.8	0.1	-2.3	6.9	100	100
14	16	83	MOVE	3700	2500	2693.62	3013.27	2245.72	3113.52	55.2	46.7	-0.1	-2.2	8.5	100	100
14	16	84	MOVE	3700	2500	2675.74	2917.73	2245.89	3016.57	59.0	48.5	0.0	-1.9	10.6	100	100
14	16	85	MOVE	3700	2500	2657.73	2821.75	2245.68	2920.00	61.0	53.5	0.5	-1.3	7.5	100	100
14	16	86	MOVE	3700	2500	2640.14	2724.22	2246.61	2822.42	64.3	58.7	0.4	0.4	5.5	100	100
14	16	87	MOVE	3700	2500	2622.58	2627.77	2247.44	2720.40	58.1	48.6	-0.0	1.2	7.6	100	100
14	16	88	MOVE	3700	2500	2604.97	2531.14	2247.97	2620.41	64.2	59.3	-0.4	1.1	4.8	100	100
14	16	89	MOVE	3700	2500	2587.25	2435.02	2248.27	2520.83	72.1	65.2	-0.3	1.4	6.9	100	100
14	16	90	MOVE	3700	2500	2569.79	2339.38	2249.16	2420.52	70.3	62.0	-0.4	1.5	8.3	100	100
14	16	91	MOVE	3700	2500	2551.84	2245.67	2248.54	2321.19	67.2	62.1	-0.2	0.8	5.0	100	100
14	16	92	MOVE	3700	2500	2457.62	2267.75	2152.45	2342.00	63.3	54.1	-0.2	1.0	9.1	100	100
14	16	93	MOVE	3700	2500	2363.71	2291.54	2056.12	2351.16	62.5	59.7	-0.4	0.7	2.8	100	100
14	16	94	MOVE	3700	2500	2270.65	2314.87	1960.28	2356.37	50.7	45.2	-0.5	0.9	5.5	100	100
14	16	96	MOVE	3700	2500	2084.51	2361.05	1770.33	2362.57	53.9	49.1	-1.1	1.9	4.8	100	100
14	16	97	MOVE	3700	2500	1989.42	2386.05	1670.73	2373.27	50.9	52.2	-0.0	0.6	4.6	100	100
14	16	98	MOVE	3700	2500	1896.58	2409.48	1575.32	2370.31	63.6	53.6	-0.0	0.7	10.0	100	100
14	16	99	MOVE	3700	2500	1802.20	2433.37	1477.75	2363.21	61.1	52.1	0.5	0.6	9.1	100	100
14	16	100	MOVE	3700	2500	1709.50	2456.87	1382.64	2366.62	61.9	54.0	0.2	0.6	7.9	100	100
14	16	101	MOVE	3700	2500	1615.50	2479.43	1286.25	2372.06	52.3	47.1	0.1	0.8	5.3	100	100
14	16	102	MOVE	3700	2500	1521.41	2503.27	1189.31	2378.03	64.2	57.8	0.0	0.4	6.4	100	100
14	16	103	MOVE	3700	2500	1427.43	2526.30	1093.33	2403.71	62.6	55.2	0.1	-0.0	7.4	100	100
14	16	104	MOVE	3700	2500	1333.53	2549.57	996.42	2409.38	63.4	55.6	-0.1	-0.7	7.7	100	100
14	16	105	MOVE	3700	2500	1240.14	2572.02	900.34	2419.92	50.0	43.1	-0.1	-0.6	7.0	100	100
14	16	106	MOVE	3700	2500	1145.79	2594.25	803.50	2419.36	59.0	51.5	-0.2	-0.2	7.6	100	100
14	16	107	MOVE	3700	2500	1052.50	2616.35	707.81	2424.00	59.2	49.1	-0.3	0.1	10.1	100	100
14	16	108	MOVE	3700	2500	957.96	2638.91	610.49	2430.93	60.8	56.4	-0.2	0.2	4.4	100	100
14	16	109	MOVE	3700	2500	864.48	2661.15	514.59	2435.48	53.0	49.5	-0.1	0.5	3.5	100	100
14	16	110	MOVE	3700	2500	770.01	2683.73	417.66	2440.71	63.5	54.1	-0.1	0.7	9.4	100	100
14	16	111	MOVE	3700	2500	675.37	2705.66	320.45	2445.40	61.5	53.0	-0.0	0.5	8.6	100	100
14	16	112	MOVE	3700	2500	582.21	2728.25	224.59	2450.27	55.3	47.0	-0.3	0.5	8.3	100	100
14	16	113	MOVE	3700	2500	487.71	2751.35	127.22	2455.47	57.5	48.2	-0.2	0.1	9.3	100	100
14	16	114	MOVE	3700	2500	394.03	2774.83	30.87	2461.45	61.1	55.9	0.0	-0.8	5.2	100	100
15	13	21	MOVE	700	5300	659.57	510.02	764.41	274.30	52.8	62.3	0.5	-0.4	-9.5	100	100
15	13	22	MOVE	700	5300	677.20	604.21	764.76	374.70	56.6	65.3	0.7	0.0	-8.7	100	100
15	13	23	MOVE	700	5300	695.44	700.14	765.64	472.44	54.7	63.1	0.5	0.0	-10.3	100	100
15	13	24	MOVE	700	5300	713.82	795.79	766.58	568.71	55.8	64.2	0.2	0.4	-8.4	100	100
15	13	25	MOVE	700	5300	731.82	891.09	767.40	664.47	42.7	52.0	0.0	0.1	-9.3	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE RGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
15	13	26	MOVE	700	5300	749.70	987.78	767.70	741.20	60.5	59.3	0.2	-0.6	-8.8	100	100
15	13	27	MOVE	700	5300	767.93	1084.11	768.83	838.53	59.3	67.4	-0.1	-1.6	-8.1	100	100
15	13	28	MOVE	700	5300	785.75	1179.42	769.51	934.50	58.7	62.1	-0.2	-2.7	-7.3	100	100
15	13	29	MOVE	700	5300	803.49	1275.28	769.68	1031.42	64.1	59.1	0.0	-3.3	4.9	100	100
15	13	30	MOVE	700	5300	821.60	1369.96	770.46	1126.45	58.8	61.5	-0.2	-2.8	-7.7	100	100
15	13	31	MOVE	700	5300	839.43	1464.61	770.77	1220.21	56.5	62.3	-0.1	-2.2	-5.8	100	100
15	13	32	MOVE	700	5300	932.72	1443.02	866.50	1239.50	58.5	63.5	0.3	-2.3	-5.0	100	100
15	13	33	MOVE	700	5300	1026.08	1423.55	964.30	1238.23	56.2	64.1	0.1	-0.8	-7.9	100	100
15	13	34	MOVE	700	5300	1121.36	1401.92	1059.79	1226.89	56.0	63.4	0.4	0.4	-7.4	100	100
15	13	35	MOVE	700	5300	1215.32	1380.54	1156.15	1224.04	53.5	59.6	0.1	-1.2	-6.1	100	100
15	13	36	MOVE	700	5300	1307.86	1358.59	1250.71	1210.80	60.4	68.2	0.2	-2.6	-7.8	100	100
15	13	37	MOVE	700	5300	1402.87	1338.21	1347.86	1215.00	54.1	62.1	-0.1	-2.7	-8.0	100	100
15	13	38	MOVE	700	5300	1496.70	1317.39	1443.67	1208.47	53.8	63.6	-0.3	-2.7	-9.9	100	100
15	13	39	MOVE	700	5300	1592.08	1297.07	1541.33	1203.70	60.3	68.9	-0.9	-2.4	-8.6	100	100
15	13	40	MOVE	700	5300	1685.32	1275.82	1636.36	1197.97	56.5	66.2	-0.5	-2.0	-9.7	100	100
15	13	41	MOVE	700	5300	1779.97	1254.95	1733.37	1193.55	49.2	57.6	-0.3	-1.1	-8.4	100	100
15	13	42	MOVE	700	5300	1874.58	1233.98	1830.22	1188.90	58.8	61.1	-0.1	-0.2	-2.3	100	100
15	13	43	MOVE	700	5300	1968.53	1212.61	1926.49	1183.51	45.2	53.7	-0.4	0.4	-8.6	100	100
15	13	44	MOVE	700	5300	2063.37	1192.00	2023.48	1178.04	53.0	62.6	-0.5	1.0	-9.6	100	100
15	13	45	MOVE	700	5300	2157.02	1170.93	2119.53	1173.26	51.3	60.8	-0.4	0.8	-9.6	100	100
15	13	46	MOVE	700	5300	2251.96	1150.24	2216.47	1169.22	49.4	58.2	-0.5	0.5	-8.7	100	100
15	13	47	MOVE	700	5300	2346.18	1128.67	2313.32	1163.24	52.2	61.3	-1.0	0.1	-9.0	100	100
15	13	48	MOVE	700	5300	2440.97	1108.22	2409.96	1159.19	52.9	61.3	-0.8	-0.7	-8.4	100	100
15	13	49	MOVE	700	5300	2535.10	1087.14	2506.62	1154.39	48.8	58.2	-1.2	-1.7	-9.4	100	100
15	13	50	MOVE	700	5300	2629.73	1065.87	2603.32	1149.04	47.0	53.9	-1.0	-1.6	-7.0	100	100
15	13	51	MOVE	700	5300	2724.60	1044.24	2700.45	1143.44	53.1	61.2	-0.9	-1.2	-8.1	100	100
15	13	52	MOVE	700	5300	2818.45	1021.97	2796.69	1137.62	60.9	68.2	-1.1	-0.9	-7.3	100	100
15	13	53	MOVE	700	5300	2913.00	1001.30	2893.69	1132.73	55.4	65.2	-0.9	-1.3	-9.8	100	100
15	13	81	MOVE	700	5300	2925.03	1033.68	2900.50	1167.50	52.9	60.3	-1.2	-1.4	-7.4	100	100
15	13	82	MOVE	700	5300	2908.15	937.22	2900.50	1070.50	57.9	66.4	-0.9	-1.1	-8.5	100	100
15	13	83	MOVE	700	5300	2890.99	842.63	2900.50	974.50	49.6	56.1	-0.6	-0.4	-6.5	100	100
15	13	84	MOVE	700	5300	2873.18	746.88	2900.50	877.50	50.8	58.4	-0.7	0.1	-9.6	100	100
15	13	85	MOVE	700	5300	2855.71	649.90	2900.50	780.50	55.2	57.7	-0.6	-0.6	-7.4	100	100
15	13	86	MOVE	700	5300	2838.18	553.46	2900.50	683.50	51.2	58.4	-0.4	-0.8	-7.2	100	100
15	13	87	MOVE	700	5300	2821.12	458.14	2900.50	587.50	49.3	58.2	-0.0	-0.8	-6.9	100	100
15	13	88	MOVE	700	5300	2803.43	362.14	2900.50	490.50	53.2	58.1	-0.1	-0.5	-4.9	100	100
15	13	89	MOVE	700	5300	2786.00	266.39	2900.50	393.50	54.3	63.1	0.2	0.1	-8.8	100	100
15	13	90	MOVE	700	5300	2768.08	170.79	2900.50	296.50	54.2	63.4	-0.2	0.4	-9.2	100	100
15	13	91	MOVE	700	5300	2750.71	76.07	2900.50	200.50	54.8	63.4	-0.3	0.2	-8.7	100	100
15	13	92	MOVE	700	5300	2650.13	97.85	2803.50	200.50	49.5	60.3	-0.2	-0.1	-10.8	100	100
15	13	93	MOVE	700	5300	2562.00	120.22	2706.50	213.50	52.3	60.6	0.1	-0.7	-8.3	100	100
15	13	94	MOVE	700	5300	2468.61	143.09	2610.50	226.50	58.4	68.1	0.2	-0.7	-9.7	100	100
15	13	95	MOVE	700	5300	2374.30	166.34	2513.50	227.50	57.6	66.4	0.3	-0.5	-8.8	100	100
15	13	96	MOVE	700	5300	2280.77	189.09	2417.50	239.50	55.3	64.7	0.2	-0.6	-9.3	100	100
15	13	97	MOVE	700	5300	2186.20	211.80	2320.50	241.50	53.4	62.4	0.1	-0.9	-9.0	100	100
15	13	98	MOVE	700	5300	2092.83	234.63	2224.50	248.50	54.5	63.9	0.2	-0.9	-9.5	100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE KGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
15	13	99	MOVE	700	5300	1998.54	257.39	2127.50	252.50	72.4	70.4	0.4	-1.1	-10.9	100	100
15	13	100	MOVE	700	5300	1905.32	280.25	2031.50	267.50	64.0	62.3	0.6	-1.1	-9.3	100	100
15	13	101	MOVE	700	5300	1810.41	302.25	1934.50	288.50	65.2	63.4	0.3	-1.2	-10.2	100	100
15	13	102	MOVE	700	5300	1715.89	325.50	1837.50	275.50	66.9	64.5	0.2	-0.9	-9.6	100	100
15	13	103	MOVE	700	5300	1622.60	348.07	1741.50	282.50	64.0	62.5	0.4	-1.2	-10.5	100	100
15	13	104	MOVE	700	5300	1528.08	371.21	1644.50	289.50	68.7	67.3	0.3	-1.1	-10.6	100	100
15	13	105	MOVE	700	5300	1434.93	394.69	1548.50	296.50	64.5	63.1	0.6	-0.4	-10.6	100	100
15	13	106	MOVE	700	5300	1340.44	418.09	1451.50	303.50	81.3	71.0	0.6	-0.1	-9.8	100	100
15	13	107	MOVE	700	5300	1246.27	440.76	1355.50	310.50	68.8	62.9	-0.1	-0.2	-4.2	100	100
15	13	108	MOVE	700	5300	1152.16	463.55	1258.50	317.50	86.5	78.5	0.2	-0.5	-22.0	100	100
15	13	109	MOVE	700	5300	1059.32	486.18	1162.50	324.50	74.4	64.4	0.8	-0.7	-10.1	100	100
15	13	110	MOVE	700	5300	964.93	509.82	1065.50	331.50	70.7	61.9	0.6	-0.3	-5.2	100	100
15	13	111	MOVE	700	5300	870.32	532.14	968.50	337.50	79.5	69.7	0.3	-0.5	-10.2	100	100
15	13	112	MOVE	700	5300	777.39	555.53	872.50	344.50	67.0	62.0	0.4	-0.5	-4.9	100	100
15	13	113	MOVE	700	5300	683.18	579.40	775.50	351.50	62.5	58.2	0.3	-0.1	-5.6	100	100
15	15	503	FIX	700	5300	1563.50	1981.50	1389.50	1878.80	75.1	*******	0.0		0.0	**********	100	100
15	15	504	FIX	700	5300	400.50	837.50	450.54	557.24	84.6	*******	0.0		0.0	**********	100	100
15	15	505	FIX	700	5300	400.50	1050.50	412.33	764.70	87.6	*******	0.0		0.0	**********	100	100
15	15	506	FIX	700	5300	1509.50	2254.50	1287.71	2137.96	78.4	*******	0.0		0.0	**********	100	100
15	15	507	FIX	700	5300	400.50	1475.50	436.12	1183.63	80.2	*******	0.0		0.0	**********	100	100
15	15	508	FIX	700	5300	1472.50	2436.50	1219.48	2312.25	74.5	*******	0.0		0.0	**********	100	100
15	15	515	FIX	700	5300	1600.50	2800.50	1280.46	2692.00	74.3	*******	0.0		0.0	**********	100	100
15	15	519	FIX	700	5300	1500.50	2500.50	1235.38	2380.09	75.3	*******	0.0		0.0	**********	100	100
15	15	520	FIX	700	5300	1566.50	2433.50	1311.84	2324.70	79.3	*******	0.0		0.0	**********	100	100
15	15	521	FIX	700	5300	612.50	837.50	659.14	593.33	79.3	*******	0.0		0.0	**********	100	100
15	15	522	FIX	700	5300	1699.50	2300.50	1465.22	2216.25	75.9	*******	0.0		0.0	**********	100	100
15	15	523	FIX	700	5300	612.50	1262.50	583.17	1005.31	84.6	*******	0.0		0.0	**********	100	100
15	15	524	FIX	700	5300	612.50	1475.50	544.68	1218.41	82.5	*******	0.0		0.0	**********	100	100
15	15	526	FIX	700	5300	1966.50	2033.50	1775.15	1990.17	75.6	*******	0.0		0.0	**********	100	100
15	15	527	FIX	700	5300	612.50	2112.50	431.76	1847.43	80.5	*******	0.0		0.0	**********	100	100
15	15	528	FIX	700	5300	2100.50	1900.50	1931.29	1889.45	75.7	*******	0.0		0.0	**********	100	100
15	15	529	FIX	700	5300	2016.50	1883.50	1852.02	1850.98	72.2	*******	0.0		0.0	**********	100	100
15	15	530	FIX	700	5300	1933.50	1866.50	1773.43	1827.57	80.9	*******	0.0		0.0	**********	100	100
15	15	531	FIX	700	5300	1850.50	1850.50	1695.44	1797.77	80.3	*******	0.0		0.0	**********	100	100
15	15	532	FIX	700	5300	1766.50	1833.50	1615.50	1780.56	75.3	*******	0.0		0.0	**********	100	100
15	15	538	FIX	700	5300	825.50	837.50	869.00	628.61	72.2	*******	0.0		0.0	**********	100	100
15	15	540	FIX	700	5300	825.50	1262.50	794.56	1038.38	83.3	*******	0.0		0.0	**********	100	100
15	15	542	FIX	700	5300	825.50	1687.50	717.41	1460.72	88.8	*******	0.0		0.0	**********	100	100
15	15	544	FIX	700	5300	825.50	2112.50	641.60	1883.78	82.0	*******	0.0		0.0	**********	100	100
15	15	545	FIX	700	5300	825.50	2325.50	603.72	2093.60	74.5	*******	0.0		0.0	**********	100	100
15	15	546	FIX	700	5300	825.50	2537.50	566.00	2301.81	71.4	*******	0.0		0.0	**********	100	100
15	15	547	FIX	700	5300	825.50	2750.50	528.36	2514.00	85.9	*******	0.0		0.0	**********	100	100
15	15	548	FIX	700	5300	825.50	2962.50	490.63	2722.09	76.5	*******	0.0		0.0	**********	100	100
15	15	549	FIX	700	5300	825.50	3175.50	452.86	2931.91	82.5	*******	0.0		0.0	**********	100	100
15	15	550	FIX	700	5300	825.50	3387.50	415.10	3140.69	78.8	*******	0.0		0.0	**********	100	100
15	15	554	FIX	700	5300	1037.50	625.50	1116.96	457.78	83.3	*******	0.0		0.0	**********	100	100

CASE KGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET	TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	ERR SAMP	DELTA Z	Z CONFIDENCE TO	FROM
15	15	555	FIX	700 5300	1037.50	837.50	1078.17	883.70	82.3*******	0.0	0.0**********		100	100
15	15	556	FIX	700 5300	1037.50	1050.50	1039.71	872.04	78.5*******	0.0	0.0**********		100	100
15	15	557	FIX	700 5300	1037.50	1262.50	1002.60	1079.02	77.3*******	0.0	0.0**********		100	100
15	15	558	FIX	700 5300	1037.50	1475.50	964.63	1287.73	76.4*******	0.0	0.0**********		100	100
15	15	559	FIX	700 5300	1037.50	1687.50	925.46	1499.54	83.9*******	0.0	0.0**********		100	100
15	15	560	FIX	700 5300	1037.50	1900.50	887.27	1711.52	82.1*******	0.0	0.0**********		100	100
15	15	561	FIX	700 5300	1037.50	2112.50	849.68	1920.00	72.8*******	0.0	0.0**********		100	100
15	15	562	FIX	700 5300	1037.50	2325.50	813.08	2129.91	84.6*******	0.0	0.0**********		100	100
15	15	563	FIX	700 5300	1037.50	2537.50	774.58	2338.77	79.8*******	0.0	0.0**********		100	100
15	15	564	FIX	700 5300	1037.50	2750.50	736.94	2549.61	75.1*******	0.0	0.0**********		100	100
15	15	565	FIX	700 5300	1037.50	2962.50	698.42	2757.65	74.0*******	0.0	0.0**********		100	100
15	15	566	FIX	700 5300	1037.50	3175.50	661.93	2968.06	77.0*******	0.0	0.0**********		100	100
15	15	567	FIX	700 5300	1037.50	3387.50	624.07	3178.83	82.1*******	0.0	0.0**********		100	100
15	15	571	FIX	700 5300	1250.50	625.50	1326.75	492.71	83.4*******	0.0	0.0**********		100	100
15	15	572	FIX	700 5300	1250.50	837.50	1287.56	698.65	84.8*******	0.0	0.0**********		100	100
15	15	573	FIX	700 5300	1250.50	1050.50	1249.85	905.26	78.0*******	0.0	0.0**********		100	100
15	15	574	FIX	700 5300	1250.50	1262.50	1212.70	1109.55	81.2*******	0.0	0.0**********		100	100
15	15	575	FIX	700 5300	1250.50	1475.50	1173.80	1325.48	81.8*******	0.0	0.0**********		100	100
15	15	576	FIX	700 5300	1250.50	1687.50	1135.07	1537.56	79.2*******	0.0	0.0**********		100	100
15	15	577	FIX	700 5300	1250.50	1900.50	1097.18	1747.50	77.1*******	0.0	0.0**********		100	100
15	15	578	FIX	700 5300	1250.50	2112.50	1059.23	1956.13	74.7*******	0.0	0.0**********		100	100
15	15	579	FIX	700 5300	1250.50	2325.50	1020.81	2165.91	76.7*******	0.0	0.0**********		100	100
15	15	582	FIX	700 5300	1250.50	2962.50	907.31	2791.94	73.8*******	0.0	0.0**********		100	100
15	15	583	FIX	700 5300	1250.50	3175.50	870.97	3002.29	77.8*******	0.0	0.0**********		100	100
15	15	584	FIX	700 5300	1250.50	3387.50	832.54	3210.43	59.8*******	0.0	0.0**********		100	100
15	15	588	FIX	700 5300	1462.50	625.50	1535.96	527.03	80.3*******	0.0	0.0**********		100	100
15	15	589	FIX	700 5300	1462.50	837.50	1497.57	732.71	76.6*******	0.0	0.0**********		100	100
15	15	590	FIX	700 5300	1462.50	1050.50	1458.22	939.37	85.7*******	0.0	0.0**********		100	100
15	15	592	FIX	700 5300	1462.50	1475.50	1381.90	1359.03	74.4*******	0.0	0.0**********		100	100
15	15	593	FIX	700 5300	1462.50	1687.50	1343.97	1572.25	79.8*******	0.0	0.0**********		100	100
15	15	594	FIX	700 5300	1462.50	1900.50	1306.16	1781.58	80.7*******	0.0	0.0**********		100	100
15	15	595	FIX	700 5300	1462.50	2112.50	1267.00	1991.73	77.5*******	0.0	0.0**********		100	100
15	15	596	FIX	700 5300	1462.50	2325.50	1229.04	2201.54	76.5*******	0.0	0.0**********		100	100
15	15	597	FIX	700 5300	1462.50	2537.50	1181.89	2410.85	76.0*******	0.0	0.0**********		100	100
15	15	598	FIX	700 5300	1462.50	2750.50	1154.23	2620.03	80.3*******	0.0	0.0**********		100	100
15	15	599	FIX	700 5300	1462.50	2962.50	1116.11	2830.34	81.8*******	0.0	0.0**********		100	100
15	15	600	FIX	700 5300	1462.50	3175.50	1078.27	3038.08	73.9*******	0.0	0.0**********		100	100
15	15	601	FIX	700 5300	1462.50	3387.50	1040.74	3244.53	76.7*******	0.0	0.0**********		100	100
15	15	605	FIX	700 5300	1675.50	625.50	1743.39	502.55	66.7*******	0.0	0.0**********		100	100
15	15	606	FIX	700 5300	1675.50	837.50	1705.84	708.53	74.4*******	0.0	0.0**********		100	100
15	15	607	FIX	700 5300	1675.50	1050.50	1667.69	913.34	84.6*******	0.0	0.0**********		100	100
15	15	608	FIX	700 5300	1675.50	1262.50	1628.80	1120.30	79.0*******	0.0	0.0**********		100	100
15	15	609	FIX	700 5300	1675.50	1475.50	1590.62	1324.31	84.9*******	0.0	0.0**********		100	100
15	15	610	FIX	700 5300	1675.50	1687.50	1553.12	1527.07	75.8*******	0.0	0.0**********		100	100
15	15	612	FIX	700 5300	1675.50	2112.50	1476.19	2020.34	82.0*******	0.0	0.0**********		100	100
15	15	613	FIX	700 5300	1675.50	2325.50	1437.78	2230.44	87.5*******	0.0	0.0**********		100	100

CASE RGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
15	15 616	FIX	700	5300	1675.50	2962.50	1325.10	2884.51	70.9*******		0.0	0.0*********		100	100
15	15 617	FIX	700	5300	1675.50	3175.50	1287.06	3074.27	72.9*******		0.0	0.0*********		100	100
15	15 621	FIX	700	5300	1887.50	412.50	1990.20	318.50	78.3*******		0.0	0.0*********		100	100
15	15 622	FIX	700	5300	1887.50	625.50	1951.85	531.44	77.1*******		0.0	0.0*********		100	100
15	15 623	FIX	700	5300	1887.50	837.50	1913.65	804.38	71.6*******		0.0	0.0*********		100	100
15	15 624	FIX	700	5300	1887.50	1050.50	1874.50	1009.09	70.8*******		0.0	0.0*********		100	100
15	15 625	FIX	700	5300	1887.50	1262.50	1837.96	1219.48	72.5*******		0.0	0.0*********		100	100
15	15 626	FIX	700	5300	1887.50	1475.50	1798.64	1432.72	78.3*******		0.0	0.0*********		100	100
15	15 627	FIX	700	5300	1887.50	1687.50	1760.98	1643.49	71.5*******		0.0	0.0*********		100	100
15	15 630	FIX	700	5300	1887.50	2325.50	1645.94	2272.23	78.5*******		0.0	0.0*********		100	100
15	15 631	FIX	700	5300	1887.50	2537.50	1607.38	2484.08	79.8*******		0.0	0.0*********		100	100
15	15 632	FIX	700	5300	1887.50	2750.50	1570.95	2691.66	69.3*******		0.0	0.0*********		100	100
15	15 634	FIX	700	5300	1887.50	3175.50	1495.06	3108.41	70.1*******		0.0	0.0*********		100	100
15	15 636	FIX	700	5300	2100.50	412.50	2200.38	427.02	80.2*******		0.0	0.0*********		100	100
15	15 640	FIX	700	5300	2100.50	837.50	2123.21	838.75	79.5*******		0.0	0.0*********		100	100
15	15 641	FIX	700	5300	2100.50	1050.50	2085.48	1044.34	81.8*******		0.0	0.0*********		100	100
15	15 642	FIX	700	5300	2100.50	1262.50	2046.81	1250.02	77.1*******		0.0	0.0*********		100	100
15	15 643	FIX	700	5300	2100.50	1475.50	2007.64	1469.66	82.1*******		0.0	0.0*********		100	100
15	15 644	FIX	700	5300	2100.50	1687.50	1969.94	1679.61	78.5*******		0.0	0.0*********		100	100
15	15 645	FIX	700	5300	2100.50	1900.50	1931.20	1889.20	75.7*******		0.0	0.0*********		100	100
15	15 646	FIX	700	5300	2100.50	2112.50	1893.37	2097.50	66.4*******		0.0	0.0*********		100	100
15	15 647	FIX	700	5300	2100.50	2325.50	1856.24	2307.48	78.2*******		0.0	0.0*********		100	100
15	15 648	FIX	700	5300	2100.50	2537.50	1816.47	2518.38	75.6*******		0.0	0.0*********		100	100
15	15 649	FIX	700	5300	2100.50	2750.50	1778.59	2720.80	76.2*******		0.0	0.0*********		100	100
15	15 650	FIX	700	5300	2100.50	2962.50	1740.62	2933.27	81.0*******		0.0	0.0*********		100	100
15	15 651	FIX	700	5300	2100.50	3175.50	1703.21	3141.34	72.0*******		0.0	0.0*********		100	100
15	15 655	FIX	700	5300	2312.50	412.50	2408.85	401.05	84.3*******		0.0	0.0*********		100	100
15	15 656	FIX	700	5300	2312.50	625.50	2368.58	606.55	79.1*******		0.0	0.0*********		100	100
15	15 657	FIX	700	5300	2312.50	837.50	2331.95	814.89	71.8*******		0.0	0.0*********		100	100
15	15 658	FIX	700	5300	2312.50	1050.50	2293.58	1079.12	72.8*******		0.0	0.0*********		100	100
15	15 659	FIX	700	5300	2312.50	1262.50	2254.79	1292.08	75.0*******		0.0	0.0*********		100	100
15	15 660	FIX	700	5300	2312.50	1475.50	2216.42	1502.79	69.1*******		0.0	0.0*********		100	100
15	15 661	FIX	700	5300	2312.50	1687.50	2177.97	1715.17	66.2*******		0.0	0.0*********		100	100
15	15 662	FIX	700	5300	2312.50	1900.50	2139.69	1924.61	70.0*******		0.0	0.0*********		100	100
15	15 663	FIX	700	5300	2312.50	2112.50	2101.80	2133.07	74.7*******		0.0	0.0*********		100	100
15	15 664	FIX	700	5300	2312.50	2325.50	2064.59	2341.53	67.0*******		0.0	0.0*********		100	100
15	15 665	FIX	700	5300	2312.50	2537.50	2025.82	2552.54	58.3*******		0.0	0.0*********		100	100
15	15 666	FIX	700	5300	2312.50	2750.50	1987.48	2760.04	74.1*******		0.0	0.0*********		100	100
15	15 667	FIX	700	5300	2312.50	2962.50	1948.92	2971.35	75.1*******		0.0	0.0*********		100	100
15	15 673	FIX	700	5300	2525.50	625.50	2580.48	702.15	72.3*******		0.0	0.0*********		100	100
15	15 674	FIX	700	5300	2525.50	837.50	2539.45	910.11	79.6*******		0.0	0.0*********		100	100
15	15 675	FIX	700	5300	2525.50	1050.50	2503.12	1113.13	64.2*******		0.0	0.0*********		100	100
15	15 676	FIX	700	5300	2525.50	1262.50	2463.97	1327.50	71.5*******		0.0	0.0*********		100	100
15	15 677	FIX	700	5300	2525.50	1475.50	2425.28	1541.93	70.8*******		0.0	0.0*********		100	100
15	15 678	FIX	700	5300	2525.50	1687.50	2387.57	1749.92	65.8*******		0.0	0.0*********		100	100
15	15 679	FIX	700	5300	2525.50	1900.50	2349.14	1960.56	71.1*******		0.0	0.0*********		100	100

CASE KOMYOO.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
15	15	680	FIX	700	5300	2525.50	2112.50	2310.93	2169.50	66.5		0.0	0.0		100	100
15	15	681	FIX	700	5300	2525.50	2325.50	2271.64	2379.46	65.9		0.0	0.0		100	100
15	15	682	FIX	700	5300	2525.50	2537.50	2234.10	2588.92	72.2		0.0	0.0		100	100
15	15	683	FIX	700	5300	2525.50	2750.50	2196.15	2798.29	65.2		0.0	0.0		100	100
15	15	684	FIX	700	5300	2525.50	2962.50	2158.50	3005.18	73.6		0.0	0.0		100	100
15	15	688	FIX	700	5300	2737.50	200.50	2864.91	324.17	75.0		0.0	0.0		100	100
15	15	689	FIX	700	5300	2737.50	412.50	2826.21	529.94	78.6		0.0	0.0		100	100
15	15	690	FIX	700	5300	2737.50	625.50	2788.68	737.47	73.4		0.0	0.0		100	100
15	15	691	FIX	700	5300	2737.50	837.50	2745.99	945.90	74.6		0.0	0.0		100	100
15	15	692	FIX	700	5300	2737.50	1050.50	2711.88	1148.87	73.8		0.0	0.0		100	100
15	15	693	FIX	700	5300	2737.50	1262.50	2673.11	1362.44	65.9		0.0	0.0		100	100
15	15	694	FIX	700	5300	2737.50	1475.50	2633.77	1576.12	72.5		0.0	0.0		100	100
15	15	695	FIX	700	5300	2737.50	1687.50	2596.12	1786.63	67.7		0.0	0.0		100	100
15	15	696	FIX	700	5300	2737.50	1900.50	2558.47	1994.72	49.4		0.0	0.0		100	100
15	15	698	FIX	700	5300	2737.50	2325.50	2481.31	2414.05	73.3		0.0	0.0		100	100
15	15	699	FIX	700	5300	2737.50	2537.50	2443.28	2623.01	82.8		0.0	0.0		100	100
15	15	701	FIX	700	5300	2737.50	2962.50	2367.07	3037.94	71.4		0.0	0.0		100	100
15	15	709	FIX	700	5300	2950.50	1050.50	2920.95	1180.02	61.3		0.0	0.0		100	100
15	15	711	FIX	700	5300	2950.50	1475.50	2843.47	1611.16	64.7		0.0	0.0		100	100
15	15	713	FIX	700	5300	2950.50	1900.50	2768.38	2030.83	68.4		0.0	0.0		100	100
15	15	714	FIX	700	5300	2950.50	2112.50	2730.29	2240.17	64.9		0.0	0.0		100	100
15	15	715	FIX	700	5300	2950.50	2325.50	2690.80	2450.44	62.2		0.0	0.0		100	100
15	15	716	FIX	700	5300	2950.50	2537.50	2652.84	2660.31	74.8		0.0	0.0		100	100
15	15	731	FIX	700	5300	3162.50	2112.50	2937.71	2274.34	70.3		0.0	0.0		100	100
15	15	733	FIX	700	5300	3162.50	2537.50	2860.64	2694.59	59.6		0.0	0.0		100	100
15	15	734	FIX	700	5300	3162.50	2750.50	2821.97	2902.35	68.7		0.0	0.0		100	100
15	16	1	MOVE	700	5300	2831.88	116.50	2972.97	297.89	63.4	63.5	-1.0	-3.7	-0.1	100	100
15	16	2	MOVE	700	5300	2849.10	211.37	2972.14	354.13	66.3	66.8	-0.3	-3.9	-0.5	100	100
15	16	3	MOVE	700	5300	2867.71	307.54	2972.74	451.13	58.4	57.4	0.1	-3.9	1.0	100	100
15	16	4	MOVE	700	5300	2885.85	402.58	2972.84	546.73	60.9	60.6	0.7	-3.8	0.3	100	100
15	16	5	MOVE	700	5300	2904.08	498.79	2972.68	643.65	62.3	61.5	1.4	-3.8	0.7	100	100
15	16	6	MOVE	700	5300	2922.37	595.11	2972.60	740.83	63.6	63.8	2.1	-4.0	-0.1	100	100
15	16	7	MOVE	700	5300	2940.50	690.58	2972.52	837.27	46.0	46.2	2.7	-4.3	-0.3	100	100
15	16	8	MOVE	700	5300	2958.69	786.53	2972.54	933.75	58.2	58.0	3.3	-4.2	0.2	100	100
15	16	9	MOVE	700	5300	2976.29	882.56	2972.56	1030.71	58.2	58.2	3.2	-4.4	0.0	100	100
15	16	10	MOVE	700	5300	2993.42	977.60	2972.46	1126.13	55.4	54.9	3.0	-4.8	0.5	100	100
15	16	11	MOVE	700	5300	3010.68	1073.25	2972.44	1223.00	61.6	60.4	2.7	-4.8	1.1	100	100
15	16	12	MOVE	700	5300	3027.80	1168.54	2972.27	1320.01	58.2	57.2	2.6	-4.4	1.0	100	100
15	16	13	MOVE	700	5300	3044.90	1262.81	2972.41	1416.80	60.5	61.1	2.3	-4.0	-0.6	100	100
15	16	14	MOVE	700	5300	3062.02	1358.12	2972.23	1513.39	57.5	57.5	2.1	-3.7	1.9	100	100
15	16	15	MOVE	700	5300	3079.04	1453.51	2971.83	1610.09	63.9	65.1	2.1	-3.4	-1.2	100	100
15	16	16	MOVE	700	5300	3096.20	1548.83	2971.75	1707.72	53.7	54.1	1.9	-3.0	-0.4	100	100
15	16	17	MOVE	700	5300	3113.23	1643.12	2971.74	1803.66	50.5	49.9	1.7	-2.7	0.5	100	100
15	16	18	MOVE	700	5300	3130.31	1738.57	2971.46	1900.91	51.6	51.7	1.6	-2.5	-0.1	100	100
15	16	19	MOVE	700	5300	3147.41	1832.77	2971.66	1996.83	60.2	59.4	1.3	-2.0	0.8	100	100
15	16	20	MOVE	700	5300	3164.67	1928.26	2971.73	2093.97	60.4	59.8	1.0	-1.8	0.6	100	100

CASE KOM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
15	16	21	MOVE	700	5300	3181.80	2023.46	2971.64	2490.00	61.2	61.7	0.9	-1.4	-0.6	100	100
15	16	22	MOVE	700	5300	3198.79	2117.77	2971.54	2586.54	54.6	54.5	0.7	-1.0	0.1	100	100
15	16	23	MOVE	700	5300	3216.10	2213.20	2971.57	2683.63	53.4	53.3	0.4	-0.7	0.1	100	100
15	16	24	MOVE	700	5300	3233.41	2308.69	2971.48	2780.55	60.7	60.5	0.2	-0.3	0.2	100	100
15	16	25	MOVE	700	5300	3250.80	2403.51	2971.48	2876.58	53.1	53.0	0.2	-0.3	0.1	100	100
15	16	26	MOVE	700	5300	3268.41	2499.47	2971.51	2973.66	58.0	58.0	0.2	0.3	0.1	100	100
15	16	27	MOVE	700	5300	3286.01	2595.66	2971.40	3070.58	59.8	59.7	0.2	0.9	-0.1	100	100
15	16	28	MOVE	700	5300	3303.53	2691.02	2971.48	3166.54	46.3	46.5	0.0	1.2	0.0	100	100
15	16	29	MOVE	700	5300	3321.09	2787.28	2971.39	3263.67	55.3	55.4	0.0	1.3	-0.1	100	100
15	16	30	MOVE	700	5300	3338.60	2883.13	2971.46	3360.57	50.1	50.1	0.1	1.5	-0.1	100	100
15	16	31	MOVE	700	5300	3356.04	2978.74	2971.37	3457.53	58.0	58.7	0.2	2.1	0.0	100	100
15	16	60	MOVE	700	5300	3293.82	3032.95	2900.50	3200.50	58.2	58.3	0.2	2.3	0.3	100	100
15	16	61	MOVE	700	5300	3276.35	2937.43	2900.50	3103.50	48.5	48.5	0.2	2.3	-0.1	100	100
15	16	62	MOVE	700	5300	3258.87	2841.64	2900.50	3006.50	55.7	56.1	0.1	2.3	-0.1	100	100
15	16	63	MOVE	700	5300	3241.29	2745.55	2900.50	2909.50	58.3	58.2	0.1	1.9	-0.4	100	100
15	16	64	MOVE	700	5300	3223.64	2649.27	2900.50	2812.50	63.1	63.0	0.1	1.5	0.1	100	100
15	16	65	MOVE	700	5300	3206.16	2553.85	2900.50	2715.50	57.2	57.3	0.1	1.2	0.0	100	100
15	16	66	MOVE	700	5300	3188.54	2457.92	2900.50	2618.50	53.6	53.7	0.3	0.7	-0.1	100	100
15	16	67	MOVE	700	5300	3170.95	2362.07	2900.50	2521.50	58.3	57.7	0.3	0.5	-0.2	100	100
15	16	68	MOVE	700	5300	3153.46	2266.32	2900.50	2424.50	59.0	59.2	0.3	-0.5	-0.5	100	100
15	16	69	MOVE	700	5300	3136.29	2171.82	2900.50	2329.50	54.7	54.5	0.6	-0.8	-0.2	100	100
15	16	70	MOVE	700	5300	3118.96	2076.37	2900.50	2232.50	57.8	57.9	1.0	-1.0	-0.0	100	100
15	16	71	MOVE	700	5300	3101.74	1980.88	2900.50	2135.50	55.4	55.6	1.1	-1.2	-0.2	100	100
15	16	72	MOVE	700	5300	3084.55	1885.36	2900.50	2038.50	55.1	55.4	1.3	-1.4	-0.3	100	100
15	16	73	MOVE	700	5300	3067.41	1789.87	2900.50	1941.50	60.6	59.5	1.4	-1.5	1.1	100	100
15	16	74	MOVE	700	5300	3050.46	1695.48	2900.50	1845.50	60.4	60.1	1.7	-1.8	-0.2	100	100
15	16	75	MOVE	700	5300	3033.04	1600.17	2900.50	1748.50	60.5	61.3	1.7	-2.2	-0.8	100	100
15	16	76	MOVE	700	5300	3015.89	1504.84	2900.50	1651.50	72.4	72.2	1.9	-2.6	-0.2	100	100
15	16	77	MOVE	700	5300	2998.48	1409.72	2900.50	1554.50	55.2	55.6	2.0	-2.8	-0.4	100	100
15	16	78	MOVE	700	5300	2981.47	1315.45	2900.50	1458.50	56.4	56.2	2.2	-3.1	-0.1	100	100
15	16	79	MOVE	700	5300	2964.19	1220.29	2900.50	1361.50	59.7	59.6	2.4	-3.7	0.1	100	100
15	16	80	MOVE	700	5300	2946.95	1125.27	2900.50	1264.50	56.7	56.7	2.6	-4.4	-0.5	100	100
15	16	81	MOVE	700	5300	2929.70	1030.18	2900.50	1167.50	59.8	60.3	2.9	-4.9	-0.5	100	100
15	16	82	MOVE	700	5300	2912.32	934.95	2900.50	1070.50	66.4	66.4	3.2	-4.4	-0.2	100	100
15	16	83	MOVE	700	5300	2894.98	838.94	2900.50	974.50	55.9	55.1	3.4	-4.1	-0.2	100	100
15	16	84	MOVE	700	5300	2877.01	742.87	2900.50	877.50	54.5	54.4	3.1	-3.9	-0.2	100	100
15	16	85	MOVE	700	5300	2858.69	646.63	2900.50	780.50	57.8	57.7	2.4	-3.9	-0.2	100	100
15	16	86	MOVE	700	5300	2840.30	550.22	2900.50	683.50	56.0	58.4	1.7	-4.0	-0.4	100	100
15	16	87	MOVE	700	5300	2822.16	455.12	2900.50	587.50	56.5	56.2	1.0	-3.9	0.3	100	100
15	16	88	MOVE	700	5300	2803.59	358.79	2900.50	490.50	58.4	58.1	0.1	-3.9	-0.4	100	100
15	16	89	MOVE	700	5300	2785.45	262.59	2900.50	393.50	62.7	63.1	-0.4	-3.7	-0.4	100	100
15	16	90	MOVE	700	5300	2767.22	166.62	2900.50	296.50	63.6	63.4	-1.0	-3.8	-0.2	100	100
15	16	91	MOVE	700	5300	2749.72	72.00	2900.50	200.50	63.5	63.4	-1.3	-3.8	0.0	100	100
16	13	1	MOVE	3500	4700	31.43	717.23	100.50	400.50	53.6	63.4	0.5	4.4	-9.8	100	100
16	13	2	MOVE	3500	4700	49.06	812.10	100.50	496.50	59.0	66.3	0.2	4.6	-7.2	100	100
16	13	3	MOVE	3500	4700	67.43	907.72	100.50	593.50	52.7	58.4	-0.4	4.1	-5.7	100	100

CASE RGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
16	13	4	MOVE	3500	4700	85.17	1002.40	100.50	885.50	52.2	60.9	-1.4	3.6	-8.7	100	100
16	13	5	MOVE	3500	4700	103.00	1097.67	100.50	780.50	53.4	62.3	-2.5	2.7	-8.9	100	100
16	13	6	MOVE	3500	4700	121.19	1194.25	100.50	883.50	55.9	63.6	-3.3	3.1	-7.7	100	100
16	13	7	MOVE	3500	4700	139.15	1290.17	100.50	979.50	40.1	46.0	-4.1	3.9	-5.8	100	100
16	13	8	MOVE	3500	4700	157.31	1386.58	100.50	1076.50	50.4	58.2	-4.7	4.2	-7.8	100	100
16	13	9	MOVE	3500	4700	175.01	1482.25	100.50	1173.50	51.0	58.2	-4.5	4.1	-7.2	100	100
16	13	10	MOVE	3500	4700	191.74	1576.91	100.50	1269.50	49.9	55.4	-4.7	4.1	-5.5	100	100
16	13	11	MOVE	3500	4700	209.17	1672.55	100.50	1366.50	55.1	61.6	-4.2	4.1	-6.4	100	100
16	13	54	MOVE	3500	4700	210.29	1574.27	119.22	1270.13	51.8	57.3	-4.7	4.0	-5.5	100	100
16	13	55	MOVE	3500	4700	304.54	1553.34	215.58	1265.10	49.9	58.1	-4.2	3.9	-8.2	100	100
16	13	56	MOVE	3500	4700	397.05	1532.46	311.72	1259.17	53.3	60.0	-3.6	3.0	-6.7	100	100
16	13	57	MOVE	3500	4700	490.22	1512.66	408.53	1254.39	55.8	64.1	-1.7	1.8	-8.3	100	100
16	13	58	MOVE	3500	4700	583.29	1491.36	504.47	1247.23	47.6	53.2	-1.2	1.4	-5.6	100	100
16	13	59	MOVE	3500	4700	677.91	1470.13	601.35	1244.49	44.0	51.2	-1.1	1.6	-7.2	100	100
16	13	60	MOVE	3500	4700	772.41	1448.51	698.21	1239.53	50.6	56.8	-0.8	2.4	-6.2	100	100
16	13	61	MOVE	3500	4700	754.27	1353.48	697.32	1143.39	55.7	62.4	-0.6	2.2	-6.7	100	100
16	13	62	MOVE	3500	4700	736.37	1257.74	697.24	1047.64	57.9	65.0	-0.6	2.8	-7.1	100	100
16	13	63	MOVE	3500	4700	718.16	1162.88	696.50	948.01	52.4	59.0	-0.3	2.2	-6.6	100	100
16	13	64	MOVE	3500	4700	700.00	1067.23	695.61	852.43	47.7	55.9	-0.1	2.0	-8.2	100	100
16	13	65	MOVE	3500	4700	682.25	971.50	695.41	755.80	49.9	58.6	-0.1	2.3	-8.7	100	100
16	13	66	MOVE	3500	4700	664.13	875.40	694.59	659.43	50.9	58.6	-0.1	1.9	-7.8	100	100
16	13	67	MOVE	3500	4700	646.29	778.59	694.57	562.37	56.7	67.0	-0.0	2.3	-10.2	100	100
16	13	68	MOVE	3500	4700	627.89	681.28	693.60	465.51	52.4	61.0	0.5	3.1	-8.6	100	100
16	13	70	MOVE	3500	4700	592.37	490.08	693.26	272.50	52.1	59.9	0.3	2.9	-7.8	100	100
16	13	114	MOVE	3500	4700	594.04	577.46	679.50	358.50	55.4	61.1	-0.0	3.4	-5.7	100	100
16	13	115	MOVE	3500	4700	499.93	599.70	582.50	385.50	51.2	58.4	0.3	2.8	-7.3	100	100
16	13	116	MOVE	3500	4700	406.61	622.32	486.50	372.50	50.6	60.1	0.3	2.6	-9.5	100	100
16	13	117	MOVE	3500	4700	312.49	645.95	389.50	379.50	55.1	59.1	0.5	2.9	-4.0	100	100
16	13	118	MOVE	3500	4700	218.83	670.22	293.50	386.50	54.5	65.7	0.2	4.0	-11.2	100	100
16	13	119	MOVE	3500	4700	124.73	693.86	196.50	393.50	51.6	61.0	0.5	4.2	-9.4	100	100
16	14	21	MOVE	3500	4700	638.77	436.13	748.19	229.72	55.5	64.8	0.3	0.1	-9.3	100	100
16	14	22	MOVE	3500	4700	650.85	530.29	749.26	323.77	58.4	68.7	-0.1	-0.1	-10.3	100	100
16	14	23	MOVE	3500	4700	674.62	626.09	749.29	422.53	58.0	63.0	0.1	-0.2	-5.0	100	100
16	14	24	MOVE	3500	4700	692.76	722.86	749.64	519.24	49.2	56.6	-0.0	-0.8	-7.4	100	100
16	14	25	MOVE	3500	4700	711.18	819.45	750.48	616.33	53.6	61.9	-0.4	-1.2	-8.4	100	100
16	14	26	MOVE	3500	4700	729.52	916.32	751.21	712.94	51.2	59.8	-0.4	-0.7	-8.6	100	100
16	14	27	MOVE	3500	4700	747.60	1012.58	751.62	808.70	43.8	51.0	-0.1	0.1	-7.1	100	100
16	14	29	MOVE	3500	4700	783.63	1203.25	752.66	1004.32	51.1	58.0	0.1	0.7	-6.9	100	100
16	14	30	MOVE	3500	4700	801.83	1298.36	753.33	1099.50	53.4	59.5	0.0	0.8	-6.1	100	100
16	14	32	MOVE	3500	4700	913.55	1371.21	850.34	1190.00	51.4	58.9	-0.0	1.2	-7.5	100	100
16	14	33	MOVE	3500	4700	1007.98	1350.11	946.73	1180.40	50.6	59.3	0.0	0.4	-8.7	100	100
16	14	34	MOVE	3500	4700	1101.56	1328.39	1042.51	1180.00	43.7	50.2	-0.2	-0.5	-6.6	100	100
16	14	35	MOVE	3500	4700	1196.66	1308.47	1139.52	1170.44	49.7	56.7	-0.4	-1.1	-6.9	100	100
16	14	36	MOVE	3500	4700	1290.37	1287.26	1235.32	1170.40	43.7	51.3	-0.3	-1.0	-7.6	100	100
16	14	37	MOVE	3500	4700	1385.13	1266.57	1332.21	1160.25	52.6	58.1	-0.2	-1.1	-5.5	100	100
16	14	38	MOVE	3500	4700	1478.71	1243.98	1428.46	1159.46	49.4	55.7	-0.2	-0.1	-6.2	100	100

CASE NOM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
16	14	39	MOVE	3500	4700	1573.75	1223.21	1525.56	1154.27	51.2	54.1	-0.4	-0.2	-3.0	100	100
16	14	40	MOVE	3500	4700	1667.79	1202.65	1621.01	1134.59	54.5	60.4	-0.7	-1.2	-5.9	100	100
16	14	41	MOVE	3500	4700	1762.75	1182.16	1718.55	1114.83	56.1	58.7	-0.9	-1.6	-8.7	100	100
16	14	42	MOVE	3500	4700	1857.67	1161.70	1815.54	1094.80	49.0	56.1	-1.0	-1.9	-7.1	100	100
16	14	43	MOVE	3500	4700	1951.20	1139.72	1911.53	1074.41	52.9	62.2	-0.8	-1.6	-9.3	100	100
16	14	44	MOVE	3500	4700	2045.71	1118.66	2008.60	1054.01	51.5	60.0	-0.5	-1.4	-8.5	100	100
16	14	45	MOVE	3500	4700	2139.12	1096.84	2104.66	1032.20	43.8	52.5	-0.3	-1.2	-8.7	100	100
16	14	46	MOVE	3500	4700	2234.02	1075.84	2202.29	1011.09	50.6	53.8	-0.4	-1.0	-3.2	100	100
16	14	47	MOVE	3500	4700	2327.63	1053.97	2298.38	1113.70	52.2	53.3	-0.3	-0.8	-1.0	100	100
16	14	48	MOVE	3500	4700	2422.34	1033.07	2395.40	1109.55	53.0	61.2	-0.2	-0.7	-8.2	100	100
16	14	49	MOVE	3500	4700	2515.71	1011.67	2491.02	1103.80	55.2	55.5	-0.1	-0.9	-0.4	100	100
16	14	50	MOVE	3500	4700	2610.91	991.20	2588.97	1099.01	50.0	56.4	-0.3	-1.2	-6.4	100	100
16	14	51	MOVE	3500	4700	2705.68	970.51	2686.34	1093.42	50.4	57.9	-0.3	-1.2	-7.5	100	100
16	14	52	MOVE	3500	4700	2798.95	947.90	2782.66	1090.14	49.7	55.3	-0.1	-1.0	-5.6	100	100
16	14	53	MOVE	3500	4700	2893.51	925.80	2879.88	1089.51	47.7	56.7	0.1	-0.5	-9.0	100	100
16	14	54	MOVE	3500	4700	2982.27	907.41	2965.27	1089.83	54.2	60.1	0.8	-0.2	-5.9	100	100
16	14	81	MOVE	3500	4700	2928.68	1002.80	2900.50	1107.50	46.6	54.5	-0.1	0.3	-7.9	100	100
16	14	82	MOVE	3500	4700	2910.89	907.68	2900.50	1094.50	50.8	57.7	-0.1	0.1	-6.9	100	100
16	14	83	MOVE	3500	4700	2893.62	813.27	2900.50	974.50	48.7	55.2	-0.1	0.1	-6.5	100	100
16	14	84	MOVE	3500	4700	2875.74	717.73	2900.50	877.50	48.5	59.0	-0.0	0.2	-10.6	100	100
16	14	85	MOVE	3500	4700	2857.73	621.75	2900.50	780.50	53.5	61.0	-0.5	0.3	-7.5	100	100
16	14	86	MOVE	3500	4700	2840.14	524.22	2900.50	683.50	58.7	64.3	-0.4	-0.4	-5.5	100	100
16	14	87	MOVE	3500	4700	2822.58	427.77	2900.50	587.50	48.6	56.1	-0.0	-1.2	-7.6	100	100
16	14	88	MOVE	3500	4700	2804.97	331.14	2900.50	490.50	59.3	64.2	0.4	-1.1	-4.8	100	100
16	14	89	MOVE	3500	4700	2787.25	235.02	2900.50	393.50	65.2	72.1	0.3	-1.4	-6.9	100	100
16	14	90	MOVE	3500	4700	2769.79	139.38	2900.50	296.50	62.0	70.3	0.4	-1.5	-8.3	100	100
16	14	91	MOVE	3500	4700	2751.84	45.67	2900.50	200.50	62.1	67.2	-0.2	-0.8	-5.0	100	100
16	14	92	MOVE	3500	4700	2657.62	67.75	2803.50	206.50	54.1	63.3	0.2	-0.7	-9.1	100	100
16	14	93	MOVE	3500	4700	2563.71	91.54	2706.50	213.50	59.7	62.5	0.5	-0.7	-2.8	100	100
16	14	94	MOVE	3500	4700	2470.65	114.87	2610.50	220.50	49.2	50.7	0.4	-0.9	-1.5	100	100
16	14	96	MOVE	3500	4700	2284.51	161.05	2417.50	234.50	49.1	53.9	1.1	-1.9	-4.8	100	100
16	14	97	MOVE	3500	4700	2189.42	186.05	2320.50	241.50	52.2	56.9	-0.0	-0.6	-4.6	100	100
16	14	98	MOVE	3500	4700	2096.58	209.48	2224.50	248.50	53.6	63.6	0.0	-0.7	-10.0	100	100
16	14	99	MOVE	3500	4700	2002.20	233.37	2127.50	255.50	52.1	61.1	-0.5	-0.6	-9.1	100	100
16	14	100	MOVE	3500	4700	1909.50	256.87	2031.50	262.50	54.0	61.9	-0.2	-0.6	-7.9	100	100
16	14	101	MOVE	3500	4700	1815.50	279.43	1934.50	269.50	47.1	52.3	-0.1	-0.8	-5.3	100	100
16	14	102	MOVE	3500	4700	1721.41	303.27	1837.50	275.50	57.8	64.2	-0.0	-0.4	-6.4	100	100
16	14	103	MOVE	3500	4700	1627.93	326.30	1741.50	282.50	55.2	62.6	-0.1	0.0	-7.4	100	100
16	14	104	MOVE	3500	4700	1533.53	349.57	1644.50	289.50	55.6	63.4	0.1	0.7	-7.7	100	100
16	14	105	MOVE	3500	4700	1440.14	372.02	1548.50	296.50	45.1	50.0	0.1	0.6	-7.0	100	100
16	14	106	MOVE	3500	4700	1345.79	394.25	1451.50	303.50	51.5	59.0	0.2	0.2	-7.6	100	100
16	14	107	MOVE	3500	4700	1252.50	416.35	1355.50	310.50	49.1	59.2	0.3	-0.1	-10.1	100	100
16	14	108	MOVE	3500	4700	1157.96	438.91	1258.50	317.50	50.4	60.8	0.2	-0.2	-4.4	100	100
16	14	109	MOVE	3500	4700	1064.48	461.15	1162.50	324.50	49.5	53.0	0.1	-0.5	-3.5	100	100
16	14	110	MOVE	3500	4700	970.01	483.73	1065.50	331.50	54.1	63.5	0.1	-0.7	-9.4	100	100
16	14	111	MOVE	3500	4700	875.37	505.66	968.50	337.50	53.0	61.5	0.0	-0.5	-8.6	100	100

CASE KGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
16	14	112	MOVE	3500	4700	782.21	528.25	872.50	344.20	47.0	55.3	0.3	-0.5	-8.3	100	100
16	14	113	MOVE	3500	4700	687.71	551.35	775.50	351.50	48.2	57.5	0.2	-0.1	-9.3	100	100
16	14	114	MOVE	3500	4700	594.03	574.83	679.50	358.50	55.9	61.1	-0.0	0.8	-5.2	100	100
16	15	1	MOVE	3500	4700	31.88	716.50	100.50	400.50	63.5	63.4	1.0	3.7	0.1	100	100
16	15	2	MOVE	3500	4700	49.10	811.37	100.50	490.50	66.8	66.3	0.3	3.9	0.5	100	100
16	15	3	MOVE	3500	4700	67.71	907.54	100.50	582.50	57.4	58.4	-0.1	3.9	-1.0	100	100
16	15	4	MOVE	3500	4700	85.85	1002.58	100.50	669.50	60.6	60.9	-0.7	3.8	-0.3	100	100
16	15	5	MOVE	3500	4700	104.08	1098.79	100.50	760.50	61.5	62.3	-1.4	3.8	-0.7	100	100
16	15	6	MOVE	3500	4700	122.37	1195.11	100.50	853.50	63.8	63.6	-2.1	4.0	0.1	100	100
16	15	7	MOVE	3500	4700	140.50	1290.58	100.50	939.50	46.2	46.0	-2.7	4.3	0.3	100	100
16	15	8	MOVE	3500	4700	158.69	1386.53	100.50	1028.50	58.0	58.2	-3.3	4.2	-0.2	100	100
16	15	9	MOVE	3500	4700	176.29	1482.56	100.50	1117.50	58.2	58.2	-3.2	4.4	-0.0	100	100
16	15	10	MOVE	3500	4700	193.42	1577.60	100.50	1206.50	54.9	55.4	-3.0	4.8	-0.5	100	100
16	15	11	MOVE	3500	4700	210.68	1673.25	100.50	1300.50	60.4	61.6	-2.7	4.8	-1.1	100	100
16	15	12	MOVE	3500	4700	227.80	1768.54	100.50	1393.50	57.2	58.2	-2.6	4.4	-1.0	100	100
16	15	13	MOVE	3500	4700	244.90	1862.81	100.50	1485.50	61.1	60.5	-2.3	4.0	0.6	100	100
16	15	14	MOVE	3500	4700	262.02	1958.12	100.50	1580.50	57.5	59.5	-2.1	3.7	-1.9	100	100
16	15	15	MOVE	3500	4700	279.04	2053.51	100.50	1675.50	65.1	63.9	-2.1	3.7	1.2	100	100
16	15	16	MOVE	3500	4700	296.20	2148.83	100.50	1770.50	54.1	53.7	-1.9	3.4	0.4	100	100
16	15	17	MOVE	3500	4700	313.23	2243.12	100.50	1860.50	49.9	50.5	-1.7	2.7	-0.5	100	100
16	15	18	MOVE	3500	4700	330.31	2338.57	100.50	1949.50	51.7	51.6	-1.6	2.5	0.1	100	100
16	15	19	MOVE	3500	4700	347.41	2432.77	100.50	2039.50	59.4	60.2	-1.3	2.0	-0.8	100	100
16	15	20	MOVE	3500	4700	364.67	2528.26	100.50	2130.50	59.8	60.4	-1.0	1.8	-0.6	100	100
16	15	21	MOVE	3500	4700	381.80	2623.46	100.50	2220.50	61.7	61.2	-0.9	1.4	0.6	100	100
16	15	22	MOVE	3500	4700	398.79	2717.77	100.50	2309.50	54.5	54.6	-0.7	1.0	-0.1	100	100
16	15	23	MOVE	3500	4700	416.10	2813.20	100.50	2400.50	53.3	53.4	-0.4	0.7	-0.1	100	100
16	15	24	MOVE	3500	4700	433.41	2908.69	100.50	2490.50	60.5	60.7	-0.2	0.3	-0.2	100	100
16	15	25	MOVE	3500	4700	450.80	3003.51	100.50	2579.50	53.0	53.1	-0.2	0.3	-0.1	100	100
16	15	26	MOVE	3500	4700	468.41	3099.47	100.50	2670.50	58.0	58.0	-0.2	0.2	0.1	100	100
16	15	27	MOVE	3500	4700	486.01	3195.66	100.50	2759.50	59.7	59.8	-0.2	0.2	-0.0	100	100
16	15	28	MOVE	3500	4700	503.53	3291.02	100.50	2849.50	46.5	46.3	-0.0	0.1	0.1	100	100
16	15	29	MOVE	3500	4700	521.09	3387.28	100.50	2940.50	55.4	55.3	-0.1	0.1	0.1	100	100
16	15	30	MOVE	3500	4700	538.60	3483.13	100.50	3029.50	50.1	50.1	-0.1	0.1	-0.0	100	100
16	15	31	MOVE	3500	4700	556.04	3578.74	100.50	3120.50	58.7	59.0	-0.2	0.3	-0.3	100	100
16	15	60	MOVE	3500	4700	493.82	3632.95	29.57	3393.41	58.3	58.2	-0.3	0.4	0.1	100	100
16	15	61	MOVE	3500	4700	476.35	3537.43	29.57	3296.45	48.5	48.5	-0.2	0.3	0.1	100	100
16	15	62	MOVE	3500	4700	458.87	3441.64	29.59	3199.42	56.1	55.7	-0.1	0.4	0.4	100	100
16	15	63	MOVE	3500	4700	441.29	3345.55	29.53	3102.37	58.2	58.3	-0.1	0.5	-0.1	100	100
16	15	64	MOVE	3500	4700	423.64	3249.27	29.49	3005.35	63.0	63.1	-0.1	0.2	-0.0	100	100
16	15	65	MOVE	3500	4700	406.16	3153.85	29.54	2859.39	57.3	57.2	-0.3	0.1	0.1	100	100
16	15	66	MOVE	3500	4700	388.54	3057.92	29.50	2767.43	53.7	53.6	-0.3	0.7	0.2	100	100
16	15	67	MOVE	3500	4700	370.95	2962.07	29.48	2669.44	57.7	58.3	-0.3	1.1	-0.5	100	100
16	15	68	MOVE	3500	4700	353.46	2866.32	29.48	2569.34	54.2	54.0	-0.3	0.5	0.2	100	100
16	15	69	MOVE	3500	4700	336.29	2771.82	29.46	2472.31	54.5	54.7	-0.6	0.8	-0.1	100	100
16	15	70	MOVE	3500	4700	318.96	2676.37	29.45	2373.31	57.9	57.8	-1.0	1.0	0.0	100	100
16	15	71	MOVE	3500	4700	301.74	2580.88	29.38	2278.30	55.6	55.4	-1.1	1.2	0.2	100	100

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CASE RGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
16	15	72	MOVE	3500	4700	284.55	2485.36	29.31	2181.23	55.4	55.1	-1.3	1.4	0.3	100	100
16	15	73	MOVE	3500	4700	267.41	2389.87	29.31	2084.24	59.5	60.6	-1.4	1.5	-1.1	100	100
16	15	74	MOVE	3500	4700	250.46	2295.48	29.39	1988.28	60.1	60.4	-1.7	1.8	-0.2	100	100
16	15	75	MOVE	3500	4700	233.04	2200.17	29.00	1891.16	61.3	60.5	-1.7	2.2	0.8	100	100
16	15	76	MOVE	3500	4700	215.89	2104.84	29.11	1794.08	72.2	72.4	-1.9	2.6	-0.2	100	100
16	15	77	MOVE	3500	4700	198.48	2009.72	28.67	1697.32	55.6	55.2	-2.0	2.8	0.4	100	100
16	15	78	MOVE	3500	4700	181.47	1915.45	28.68	1601.59	56.2	56.4	-2.2	3.1	-0.1	100	100
16	15	79	MOVE	3500	4700	164.19	1820.29	28.57	1504.32	59.6	59.7	-2.4	3.7	-0.1	100	100
16	15	80	MOVE	3500	4700	146.95	1725.27	28.54	1407.24	56.7	56.7	-2.6	4.4	-0.0	100	100
16	15	81	MOVE	3500	4700	129.70	1630.18	28.52	1310.26	60.3	59.8	-2.9	4.9	0.5	100	100
16	15	82	MOVE	3500	4700	112.32	1533.95	28.52	1213.24	66.4	66.4	-3.2	4.4	0.0	100	100
16	15	83	MOVE	3500	4700	94.98	1438.94	28.51	1117.27	56.1	55.9	-3.4	4.1	0.2	100	100
16	15	84	MOVE	3500	4700	77.01	1342.87	28.41	1020.34	56.4	54.5	-3.1	3.9	1.9	100	100
16	15	85	MOVE	3500	4700	58.69	1246.63	28.40	923.26	57.7	57.8	-2.4	3.9	-0.2	100	100
16	15	86	MOVE	3500	4700	40.30	1150.22	28.31	825.83	58.4	58.0	-1.7	4.0	0.4	100	100
16	15	87	MOVE	3500	4700	22.16	1055.12	28.21	730.06	56.2	56.5	-1.0	3.9	-0.3	100	100
16	15	88	MOVE	3500	4700	3.59	958.79	27.75	632.77	58.1	58.4	-0.1	3.9	-0.4	100	100
16	15	89	MOVE	3500	4700	-14.55	862.59	28.09	535.91	63.1	62.7	0.4	3.7	0.4	100	100
16	15	90	MOVE	3500	4700	-32.78	766.62	27.76	438.76	63.4	63.6	1.0	3.8	-0.2	100	100
16	15	91	MOVE	3500	4700	-50.28	672.00	27.62	342.01	63.4	63.5	1.3	3.8	-0.0	100	100
16	16	507	FIX	3500	4700	300.50	1375.50	237.43	1092.95	70.6	********	0.0	0.0	**********	100	100
16	16	521	FIX	3500	4700	512.50	737.50	570.18	502.70	67.8	********	0.0	0.0	**********	100	100
16	16	522	FIX	3500	4700	512.50	950.50	533.02	710.21	78.4	********	0.0	0.0	**********	100	100
16	16	523	FIX	3500	4700	512.50	1162.50	492.64	914.11	65.5	********	0.0	0.0	**********	100	100
16	16	526	FIX	3500	4700	512.50	1800.50	377.68	1542.55	56.0	********	0.0	0.0	**********	100	100
16	16	527	FIX	3500	4700	512.50	2012.50	339.40	1735.39	71.8	********	0.0	0.0	**********	100	100
16	16	529	FIX	3500	4700	512.50	2437.50	263.03	2174.20	67.9	********	0.0	0.0	**********	100	100
16	16	531	FIX	3500	4700	512.50	2862.50	186.28	2592.03	55.2	********	0.0	0.0	**********	100	100
16	16	536	FIX	3500	4700	725.50	737.50	778.78	530.50	71.5	********	0.0	0.0	**********	100	100
16	16	540	FIX	3500	4700	725.50	1162.50	703.06	951.53	73.8	********	0.0	0.0	**********	100	100
16	16	544	FIX	3500	4700	725.50	2012.50	548.92	1751.05	64.1	********	0.0	0.0	**********	100	100
16	16	545	FIX	3500	4700	725.50	2225.50	510.90	2001.41	72.5	********	0.0	0.0	**********	100	100
16	16	546	FIX	3500	4700	725.50	2437.50	472.58	2209.67	62.4	********	0.0	0.0	**********	100	100
16	16	547	FIX	3500	4700	725.50	2650.50	434.47	2419.57	63.5	********	0.0	0.0	**********	100	100
16	16	549	FIX	3500	4700	725.50	3075.50	357.51	2837.03	59.4	********	0.0	0.0	**********	100	100
16	16	551	FIX	3500	4700	725.50	3500.50	281.47	3249.07	52.3	********	0.0	0.0	**********	100	100
16	16	557	FIX	3500	4700	937.50	1162.50	911.57	992.34	59.5	********	0.0	0.0	**********	100	100
16	16	560	FIX	3500	4700	937.50	1800.50	795.94	1616.44	60.2	********	0.0	0.0	**********	100	100
16	16	563	FIX	3500	4700	937.50	2437.50	681.53	2245.45	75.7	********	0.0	0.0	**********	100	100
16	16	566	FIX	3500	4700	937.50	3075.50	505.59	2872.55	67.3	********	0.0	0.0	**********	100	100
16	16	567	FIX	3500	4700	937.50	3287.50	528.67	3075.77	66.5	********	0.0	0.0	**********	100	100
16	16	576	FIX	3500	4700	1150.50	1587.50	1043.45	1441.12	60.5	********	0.0	0.0	**********	100	100
16	16	578	FIX	3500	4700	1150.50	2012.50	967.44	1865.40	79.5	********	0.0	0.0	**********	100	100
16	16	579	FIX	3500	4700	1150.50	2225.50	929.13	2072.47	82.1	********	0.0	0.0	**********	100	100
16	16	581	FIX	3500	4700	1150.50	2650.50	852.69	2490.71	57.6	********	0.0	0.0	**********	100	100
16	16	582	FIX	3500	4700	1150.50	2862.50	814.64	2699.57	73.6	********	0.0	0.0	**********	100	100

CASE KGM900.PAT STEP 4

FRAME		TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	SAMP	DELTA Z	Z CONFIDENCE TO	FROM
16	16	584	FIX	3500	4700	1150.50	3287.50	737.46	3147.30	70.0*******		0.0	0.0**********		100	100
16	16	585	FIX	3500	4700	1150.50	3500.50	699.59	3319.03	61.9*******		0.0	0.0**********		100	100
16	16	588	FIX	3500	4700	1362.50	525.50	1444.94	454.28	79.7*******		0.0	0.0**********		100	100
16	16	589	FIX	3500	4700	1362.50	737.50	1406.06	641.24	69.9*******		0.0	0.0**********		100	100
16	16	591	FIX	3500	4700	1362.50	1162.50	1328.51	1038.28	80.3*******		0.0	0.0**********		100	100
16	16	593	FIX	3500	4700	1362.50	1587.50	1252.11	1477.20	89.9*******		0.0	0.0**********		100	100
16	16	594	FIX	3500	4700	1362.50	1800.50	1213.76	1669.13	77.6*******		0.0	0.0**********		100	100
16	16	595	FIX	3500	4700	1362.50	2012.50	1176.53	1898.49	93.4*******		0.0	0.0**********		100	100
16	16	598	FIX	3500	4700	1362.50	2650.50	1060.66	2529.01	81.2*******		0.0	0.0**********		100	100
16	16	599	FIX	3500	4700	1362.50	2862.50	1022.14	2737.03	82.7*******		0.0	0.0**********		100	100
16	16	601	FIX	3500	4700	1362.50	3287.50	952.63	3145.48	99.0*******		0.0	0.0**********		100	100
16	16	606	FIX	3500	4700	1575.50	737.50	1615.79	670.54	95.4*******		0.0	0.0**********		100	100
16	16	609	FIX	3500	4700	1575.50	1375.50	1500.60	1307.38	93.5*******		0.0	0.0**********		100	100
16	16	610	FIX	3500	4700	1575.50	1587.50	1462.88	1514.59	70.3*******		0.0	0.0**********		100	100
16	16	611	FIX	3500	4700	1575.50	1800.50	1422.71	1725.27	65.5*******		0.0	0.0**********		100	100
16	16	612	FIX	3500	4700	1575.50	2012.50	1385.09	1930.93	82.4*******		0.0	0.0**********		100	100
16	16	616	FIX	3500	4700	1575.50	2862.50	1240.22	2771.88	76.1*******		0.0	0.0**********		100	100
16	16	617	FIX	3500	4700	1575.50	3075.50	1195.45	2979.63	80.5*******		0.0	0.0**********		100	100
16	16	621	FIX	3500	4700	1787.50	312.50	1930.93	245.39	72.8*******		0.0	0.0**********		100	100
16	16	622	FIX	3500	4700	1787.50	525.50	1862.81	503.49	82.2*******		0.0	0.0**********		100	100
16	16	623	FIX	3500	4700	1787.50	737.50	1825.24	711.08	87.9*******		0.0	0.0**********		100	100
16	16	626	FIX	3500	4700	1787.50	1375.50	1708.09	1337.26	76.9*******		0.0	0.0**********		100	100
16	16	627	FIX	3500	4700	1787.50	1587.50	1670.20	1548.16	92.3*******		0.0	0.0**********		100	100
16	16	628	FIX	3500	4700	1787.50	1800.50	1632.28	1760.58	84.9*******		0.0	0.0**********		100	100
16	16	629	FIX	3500	4700	1787.50	2012.50	1593.90	1971.29	38.1*******		0.0	0.0**********		100	100
16	16	631	FIX	3500	4700	1787.50	2437.50	1516.78	2391.38	88.4*******		0.0	0.0**********		100	100
16	16	632	FIX	3500	4700	1787.50	2650.50	1477.46	2604.20	75.6*******		0.0	0.0**********		100	100
16	16	634	FIX	3500	4700	1787.50	3075.50	1401.63	3018.91	89.6*******		0.0	0.0**********		100	100
16	16	635	FIX	3500	4700	1787.50	3287.50	1364.55	3224.35	47.2*******		0.0	0.0**********		100	100
16	16	638	FIX	3500	4700	2000.50	312.50	2110.63	226.09	74.9*******		0.0	0.0**********		100	100
16	16	639	FIX	3500	4700	2000.50	525.50	2072.67	540.20	93.1*******		0.0	0.0**********		100	100
16	16	640	FIX	3500	4700	2000.50	737.50	2033.96	730.98	70.9*******		0.0	0.0**********		100	100
16	16	643	FIX	3500	4700	2000.50	1375.50	1917.28	1374.19	90.6*******		0.0	0.0**********		100	100
16	16	644	FIX	3500	4700	2000.50	1587.50	1879.36	1584.50	88.0*******		0.0	0.0**********		100	100
16	16	645	FIX	3500	4700	2000.50	1800.50	1842.63	1792.51	83.1*******		0.0	0.0**********		100	100
16	16	646	FIX	3500	4700	2000.50	2012.50	1803.06	2007.39	80.8*******		0.0	0.0**********		100	100
16	16	649	FIX	3500	4700	2000.50	2650.50	1687.01	2636.88	87.0*******		0.0	0.0**********		100	100
16	16	652	FIX	3500	4700	2000.50	3287.50	1571.88	3250.32	89.8*******		0.0	0.0**********		100	100
16	16	656	FIX	3500	4700	2212.50	525.50	2280.72	570.80	87.2*******		0.0	0.0**********		100	100
16	16	657	FIX	3500	4700	2212.50	737.50	2242.29	760.26	77.9*******		0.0	0.0**********		100	100
16	16	659	FIX	3500	4700	2212.50	1162.50	2165.82	1201.24	73.7*******		0.0	0.0**********		100	100
16	16	660	FIX	3500	4700	2212.50	1375.50	2125.89	1411.27	88.6*******		0.0	0.0**********		100	100
16	16	662	FIX	3500	4700	2212.50	1800.50	2050.36	1851.24	83.2*******		0.0	0.0**********		100	100
16	16	665	FIX	3500	4700	2212.50	2437.50	1933.80	2464.67	72.6*******		0.0	0.0**********		100	100
16	16	668	FIX	3500	4700	2212.50	3075.50	1819.40	3087.33	69.8*******		0.0	0.0**********		100	100
16	16	673	FIX	3500	4700	2425.50	525.50	2491.42	814.80	80.1*******		0.0	0.0**********		100	100

CASE KGM900.PAT STEP 4

FRAME	TIEPOINT SEQ	TIEPOINT TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
16	16	675	FIX	3500	4700	2425.50	950.50	2413.22	1026.70	12.6********	0.0	0.0**********		100	100
16	16	676	FIX	3500	4700	2425.50	1162.50	2375.13	1239.30	13.9********	0.0	0.0**********		100	100
16	16	677	FIX	3500	4700	2425.50	1375.50	2336.19	1449.65	77.4********	0.0	0.0**********		100	100
16	16	678	FIX	3500	4700	2425.50	1587.50	2297.70	1660.35	72.9********	0.0	0.0**********		100	100
16	16	682	FIX	3500	4700	2425.50	2437.50	2143.77	2490.45	77.4********	0.0	0.0**********		100	100
16	16	685	FIX	3500	4700	2425.50	3075.50	2028.00	3120.45	76.4********	0.0	0.0**********		100	100
16	16	691	FIX	3500	4700	2637.50	312.50	2739.87	443.25	65.0********	0.0	0.0**********		100	100
16	16	692	FIX	3500	4700	2637.50	737.50	2658.51	857.00	81.3********	0.0	0.0**********		100	100
16	16	694	FIX	3500	4700	2637.50	950.50	2622.46	1066.80	82.4********	0.0	0.0**********		100	100
16	16	695	FIX	3500	4700	2637.50	1375.50	2544.90	1488.38	70.9********	0.0	0.0**********		100	100
16	16	697	FIX	3500	4700	2637.50	1587.50	2505.80	1698.53	70.2********	0.0	0.0**********		100	100
16	16	699	FIX	3500	4700	2637.50	2012.50	2427.85	2117.04	75.3********	0.0	0.0**********		100	100
16	16	702	FIX	3500	4700	2637.50	2437.50	2352.62	2535.50	71.6********	0.0	0.0**********		100	100
16	16	707	FIX	3500	4700	2637.50	3075.50	2235.56	3154.70	69.6********	0.0	0.0**********		100	100
16	16	710	FIX	3500	4700	2850.50	525.50	2910.33	680.04	81.4********	0.0	0.0**********		100	100
16	16	711	FIX	3500	4700	2850.50	1162.50	2794.41	1311.73	75.2********	0.0	0.0**********		100	100
16	16	714	FIX	3500	4700	2850.50	1375.50	2754.50	1521.50	72.3********	0.0	0.0**********		100	100
16	16	713	FIX	3500	4700	2850.50	1587.50	2715.94	1733.20	70.5********	0.0	0.0**********		100	100
16	16	714	FIX	3500	4700	2850.50	1800.50	2678.49	1939.65	72.2********	0.0	0.0**********		100	100
16	16	716	FIX	3500	4700	2850.50	2012.50	2638.24	2153.19	81.9********	0.0	0.0**********		100	100
16	16	719	FIX	3500	4700	2850.50	2437.50	2560.21	2575.21	84.9********	0.0	0.0**********		100	100
16	16	730	FIX	3500	4700	2850.50	3075.50	2444.94	3100.85	87.9********	0.0	0.0**********		100	100
16	16	733	FIX	3500	4700	3062.50	1800.50	2885.67	1900.04	73.9********	0.0	0.0**********		100	100
16	16	735	FIX	3500	4700	3062.50	2437.50	2768.42	2609.54	70.6********	0.0	0.0**********		100	100
16	16	752	FIX	3500	4700	3062.50	2862.50	2696.25	3033.63	86.7********	0.0	0.0**********		100	100
16	1616004		FIX	3500	4700	3275.50	2862.50	2901.35	3054.02	88.6********	0.0	0.0**********		100	100
16	1616002		FIX	3500	4700	470.00	665.00	541.00	420.00	0.0********	0.0	0.0**********		100	100
16	1616003		FIX	3500	4700	924.00	710.00	980.00	544.00	0.0********	0.0	0.0**********		100	100
16	1616004		FIX	3500	4700	1002.00	803.00	1038.00	640.00	0.0********	0.0	0.0**********		100	100
16	1616005		FIX	3500	4700	1381.00	638.00	1443.00	540.00	0.0********	0.0	0.0**********		100	100
16	1616006		FIX	3500	4700	1494.00	496.00	1578.00	474.00	0.0********	0.0	0.0**********		100	100
16	1616007		FIX	3500	4700	1522.00	530.00	1601.00	463.00	0.0********	0.0	0.0**********		100	100
16	1616008		FIX	3500	4700	1598.00	596.00	1663.00	541.00	0.0********	0.0	0.0**********		100	100
16	1616009		FIX	3500	4700	1288.00	991.00	1284.00	880.00	0.0********	0.0	0.0**********		100	100
16	1616010		FIX	3500	4700	1591.00	915.00	1597.00	855.00	0.0********	0.0	0.0**********		100	100
16	1616011		FIX	3500	4700	1322.00	1112.00	1297.00	1005.00	0.0********	0.0	0.0**********		100	100
16	1616012		FIX	3500	4700	1509.00	1135.00	1477.00	1056.00	0.0********	0.0	0.0**********		100	100
16	1616013		FIX	3500	4700	1846.00	1155.00	1805.00	1130.00	0.0********	0.0	0.0**********		100	100
16	1616014		FIX	3500	4700	1957.00	1161.00	1912.00	1134.00	0.0********	0.0	0.0**********		100	100
16	1616015		FIX	3500	4700	2065.00	1131.00	2025.00	1143.00	0.0********	0.0	0.0**********		100	100
16	1616016		FIX	3500	4700	1742.00	1235.00	1688.00	1191.00	0.0********	0.0	0.0**********		100	100
16	1616017		FIX	3500	4700	1799.00	1722.00	1657.00	1684.00	0.0********	0.0	0.0**********		100	100
16	1616018		FIX	3500	4700	2070.00	1629.00	1942.00	1637.00	0.0********	0.0	0.0**********		100	100
16	1616019		FIX	3500	4700	2033.00	1991.00	1836.00	1991.00	0.0********	0.0	0.0**********		100	100
16	1616020		FIX	3500	4700	2141.00	2265.00	1895.00	2282.00	0.0********	0.0	0.0**********		100	100
16				3500	4700	2549.00	2256.00	2297.00	2343.00	0.0********	0.0	0.0**********		100	100

LANDSAT DIGITAL MOSAIC TIEPOINT DATA SET

CASE KGN900.PAT STEP 4

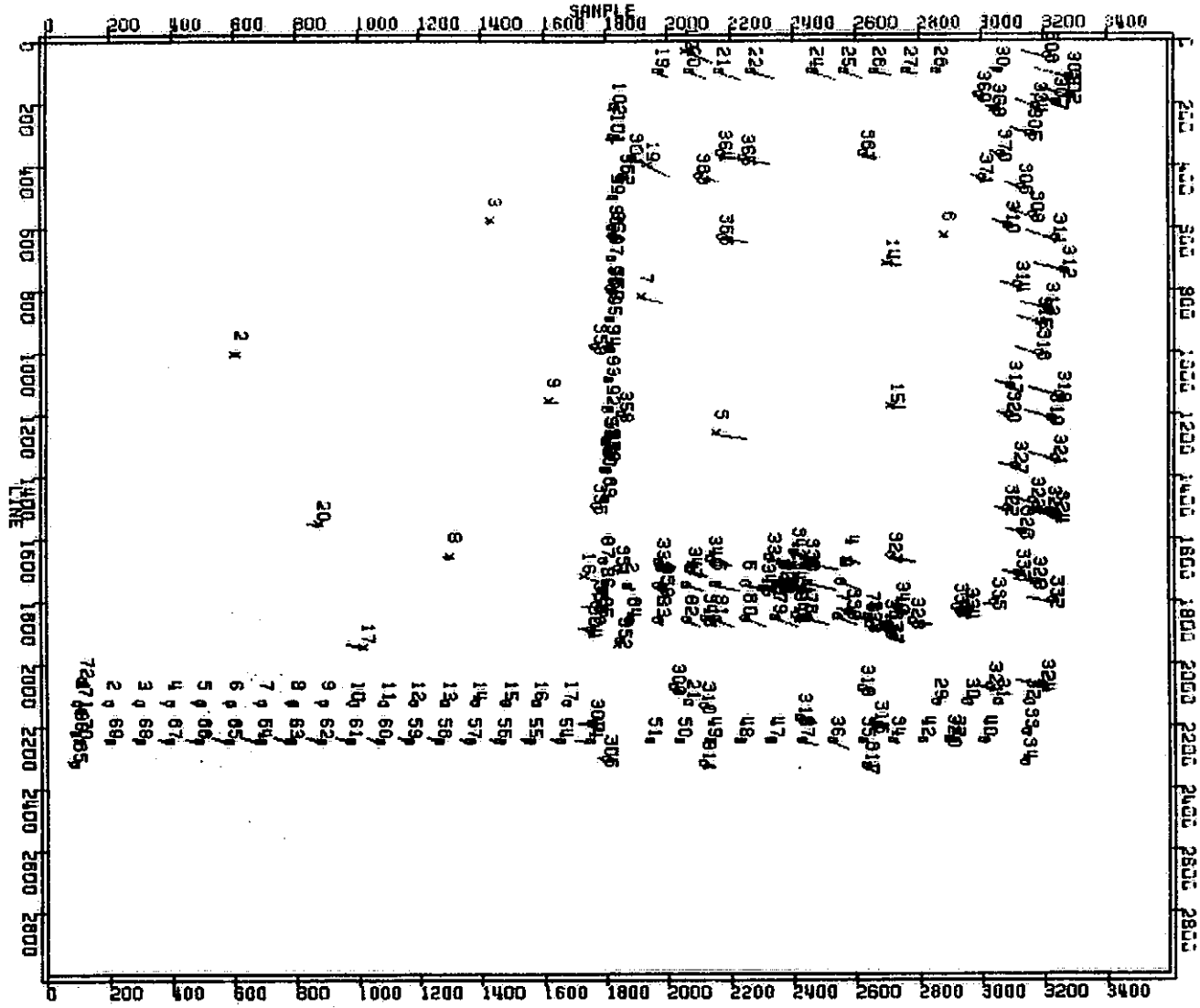
FRAME	TIEPOINT SEQ	TYPE	OFFSET		TO LINE	TO SAMP	FROM LINE	FROM SAMP	TO Z	FROM Z	INTERFRAME ERR LINE	INTERFRAME ERR SAMP	DELTA Z	Z CONFIDENCE TO	Z CONFIDENCE FROM
16	1616221	FIX	3500	4700	2703.00	2184.00	2461.00	2297.00	0.0*******		0.0	0.0*********		100	100
16	1616222	FIX	3500	4700	2953.00	1962.00	2747.00	2121.00	0.0*******		0.0	0.0*********		100	100
16	1616223	FIX	3500	4700	1503.00	2214.00	1277.00	2124.00	0.0*******		0.0	0.0*********		100	100
16	1616224	FIX	3500	4700	1701.00	2254.00	1464.00	2197.00	0.0*******		0.0	0.0*********		100	100
16	1616225	FIX	3500	4700	1597.00	2616.00	1298.00	2534.00	0.0*******		0.0	0.0*********		100	100
16	1616226	FIX	3500	4700	1781.00	2669.00	1467.00	2619.00	0.0*******		0.0	0.0*********		100	100
16	1616227	FIX	3500	4700	1820.00	2490.00	1539.00	2446.00	0.0*******		0.0	0.0*********		100	100
16	1616228	FIX	3500	4700	1686.00	2842.00	1343.00	2773.00	0.0*******		0.0	0.0*********		100	100
16	1616229	FIX	3500	4700	1675.00	2993.00	1305.00	2926.00	0.0*******		0.0	0.0*********		100	100
16	1616230	FIX	3500	4700	1543.00	2863.00	1198.00	2769.00	0.0*******		0.0	0.0*********		100	100
16	1616231	FIX	3500	4700	2004.00	2765.00	1669.00	2650.00	0.0*******		0.0	0.0*********		100	100
16	1616232	FIX	3500	4700	2247.00	2711.00	1916.00	2739.00	0.0*******		0.0	0.0*********		100	100
16	1616233	FIX	3500	4700	2602.00	2776.00	2254.00	2863.00	0.0*******		0.0	0.0*********		100	100
16	1616234	FIX	3500	4700	2626.00	2913.00	2253.00	2999.00	0.0*******		0.0	0.0*********		100	100
16	1616235	FIX	3500	4700	2860.00	2709.00	2520.00	2639.00	0.0*******		0.0	0.0*********		100	100
16	1616236	FIX	3500	4700	3021.00	2631.00	2693.00	2790.00	0.0*******		0.0	0.0*********		100	100

6.3.4 Tiepoint Editing

This phase of the mosaic construction is perhaps the most critical. It is imperative that all 'bad' points be adjusted or discarded, because the accuracy of the mosaic depends on the goodness of the tiepoints.

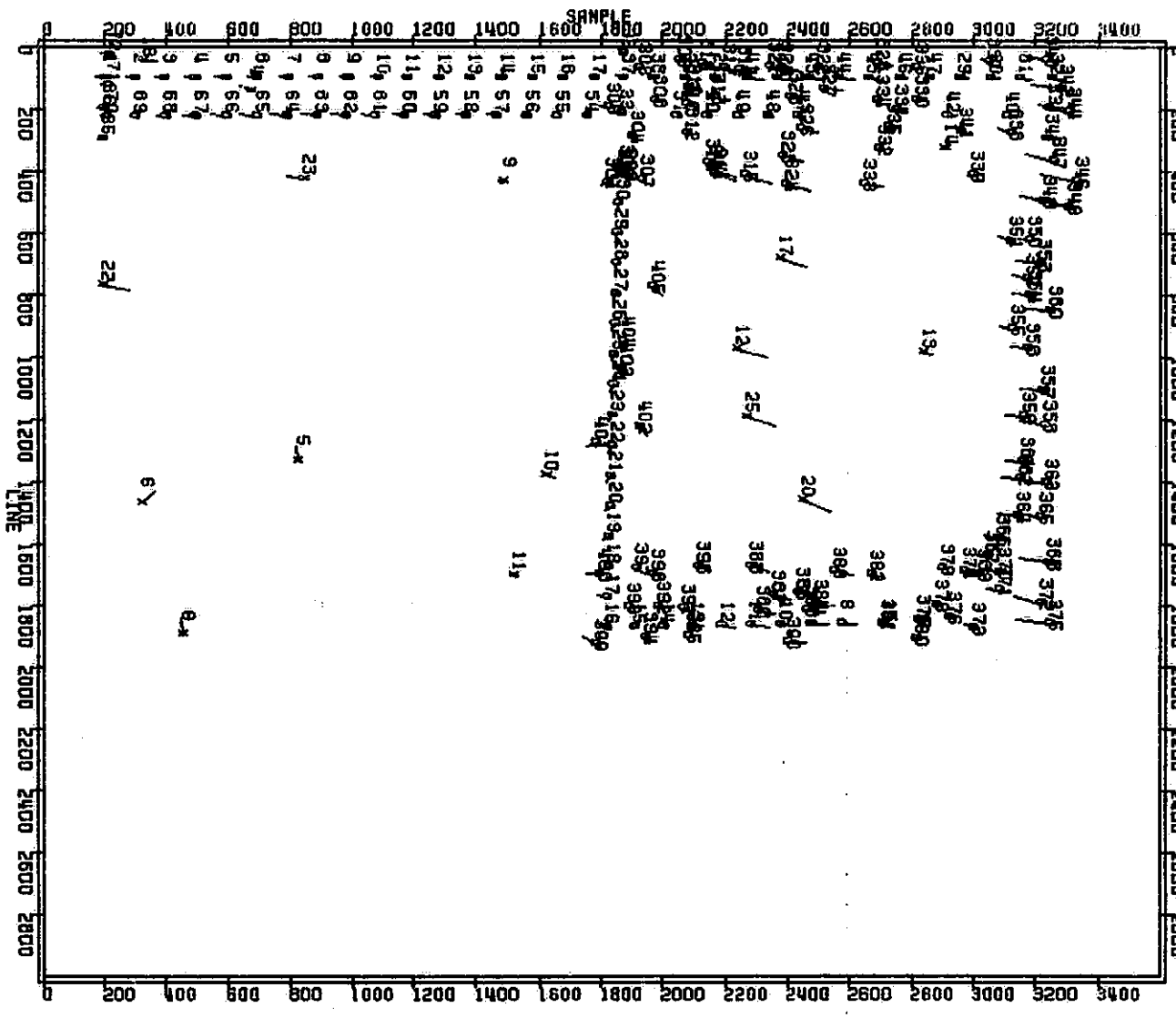
At this stage a preliminary plot is produced to view the spatial distribution of all points selected. This is necessary to ensure that an even distribution of points is gathered and that no large segments of the imagery are left uncontrolled. If there are large gaps, manually selected tiepoints can be inserted to fill the space the automatic mode was unable to provide for. The manual mode refers to the analyst actually identifying common points in two images on a CRT and submitting those points to the standard correlation algorithm for 'locking in'. These can be added to the tiepoint file by repeating steps MOS31 through MOS34. As for the timing of these steps, the 'MOS' procedures typically consume less than 5 minutes CPU total on an IBM 370/158. Another plot can be produced to depict the location of each tiepoint in a cartoon frame. Each tiepoint can possess a tail whose length in pixels is the deviation from a least squares surface for the entire mosaic. This plot aides the analyst in flagging errant points which are not readily identifiable in the tabular listing. If there is such a density of points that only confusion results, the plots can be sectioned to yield better resolution and separation for viewing. Figures 33 through 50 show the distribution of the points used for each frame.

Finally, a plot is produced which looks at the relationship between neighboring points. This plot is called a 'neighbor plot' and is intended to identify juxtaposed tiepoints which disagree on geographic destination. Closely positioned points that are to be moved in different directions can produce 'rips' in the mosaic. This phenonema is seen mainly in the edge matching points and usually only edge matching points are discarded in the editing process. Occasionally a ground control point will be discarded, but only after serious consideration has been given to its validity. A tabular listing of all bad neighbors showing line/sample position is produced to aide in the process.



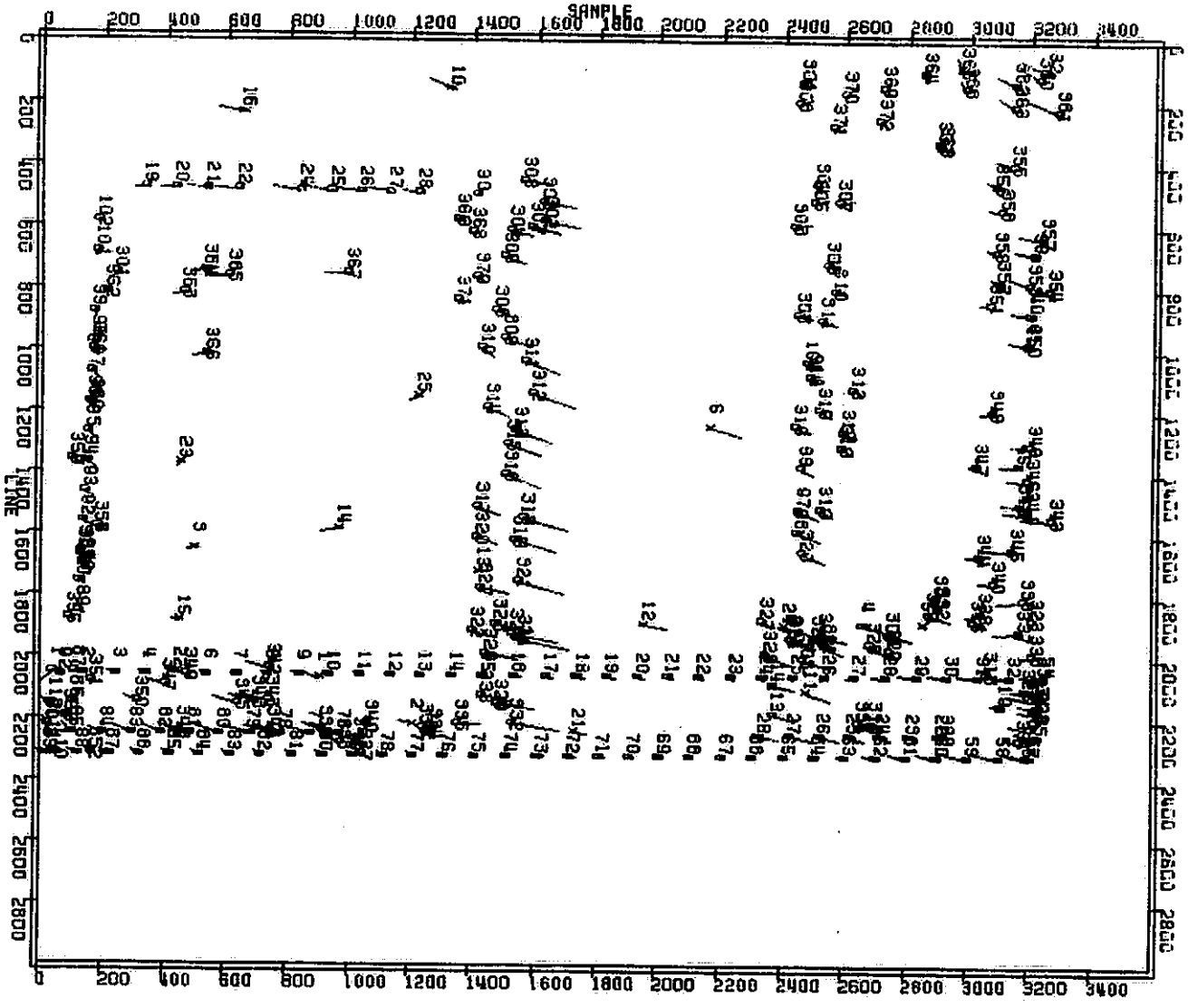
Distribution of tiepoints used for
Frame 1 Titusville 21267-15031
UTM Zone 17

Figure 33



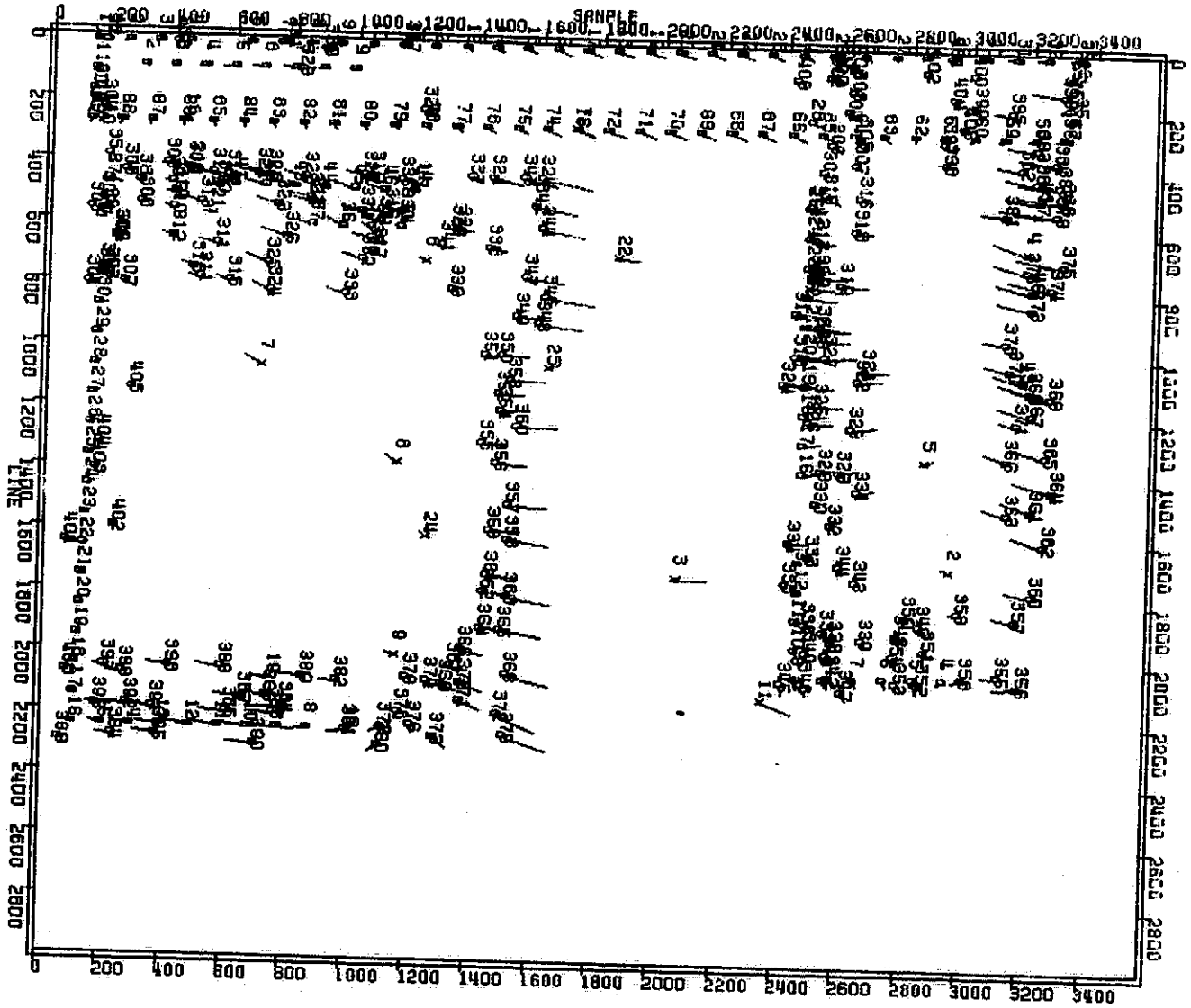
Distribution of tiepoints used for
Frame 2 Steubenville 21267-15034
UTM Zone 17

Figure 34



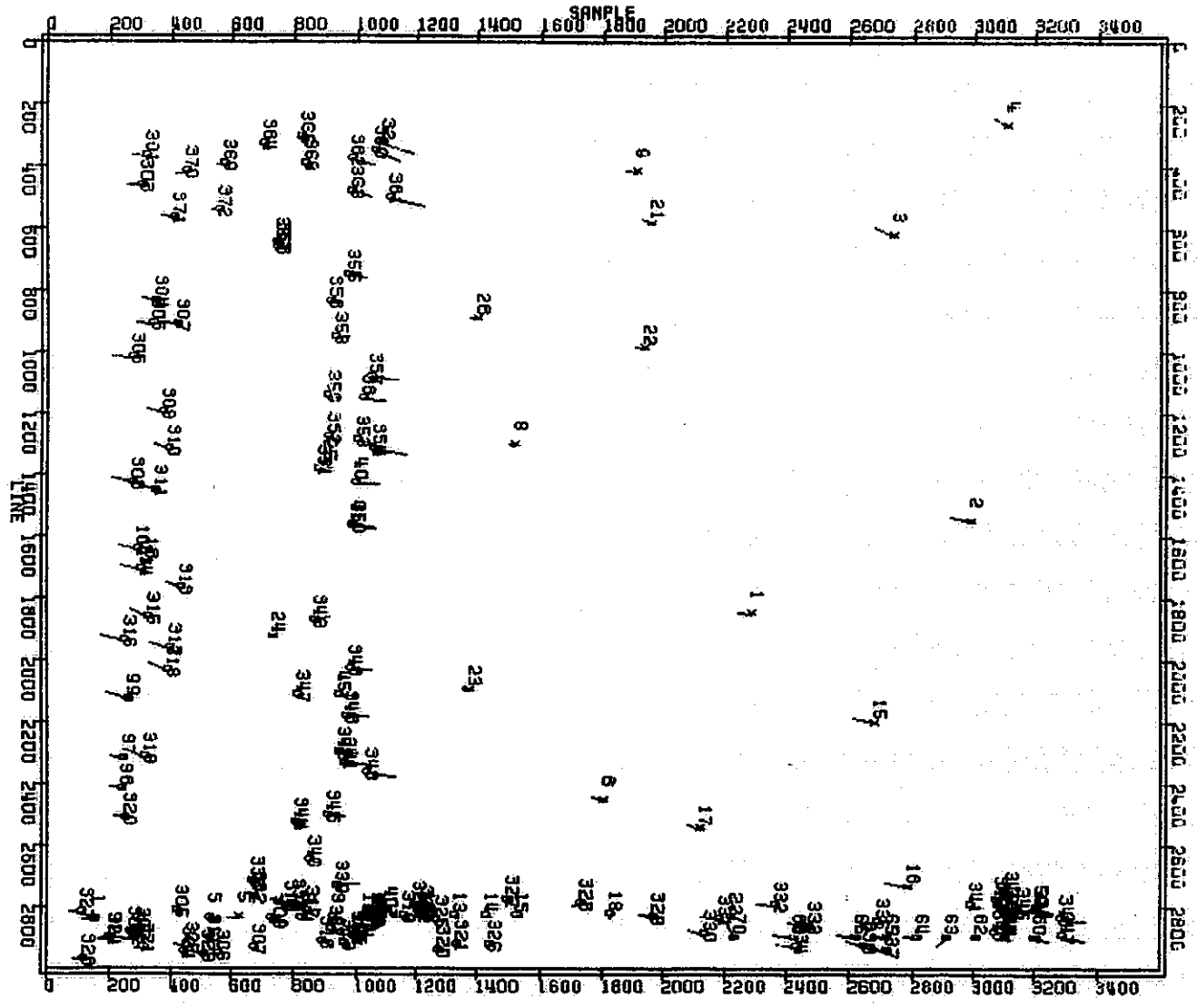
Distribution of tiepoints used for
Frame 3 Warren 2600-15094
UTM Zone 17

Figure 35



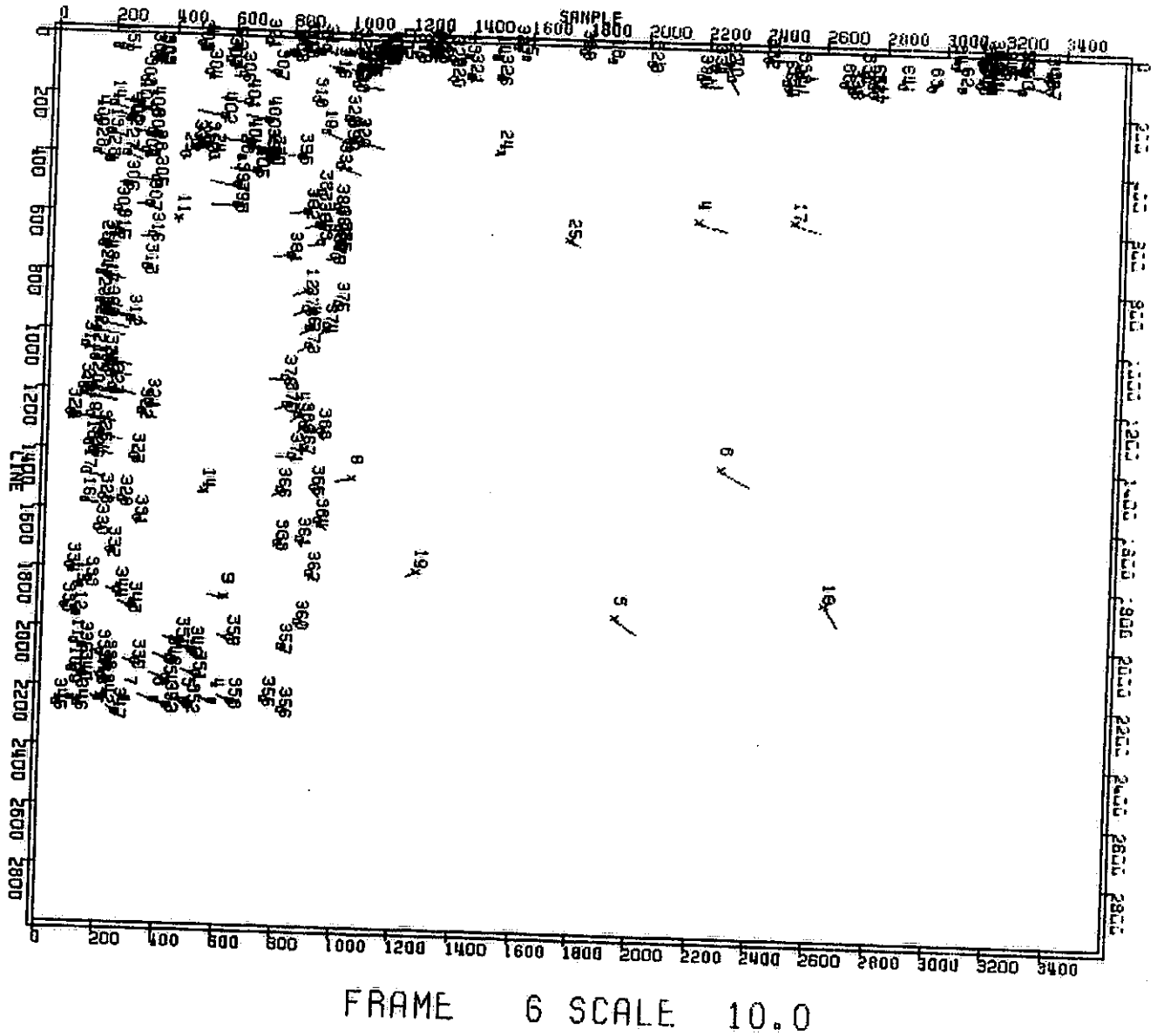
Distribution of tiepoints used for
Frame 4 Pittsburgh 2600-15100
UTM Zone 17

Figure 36



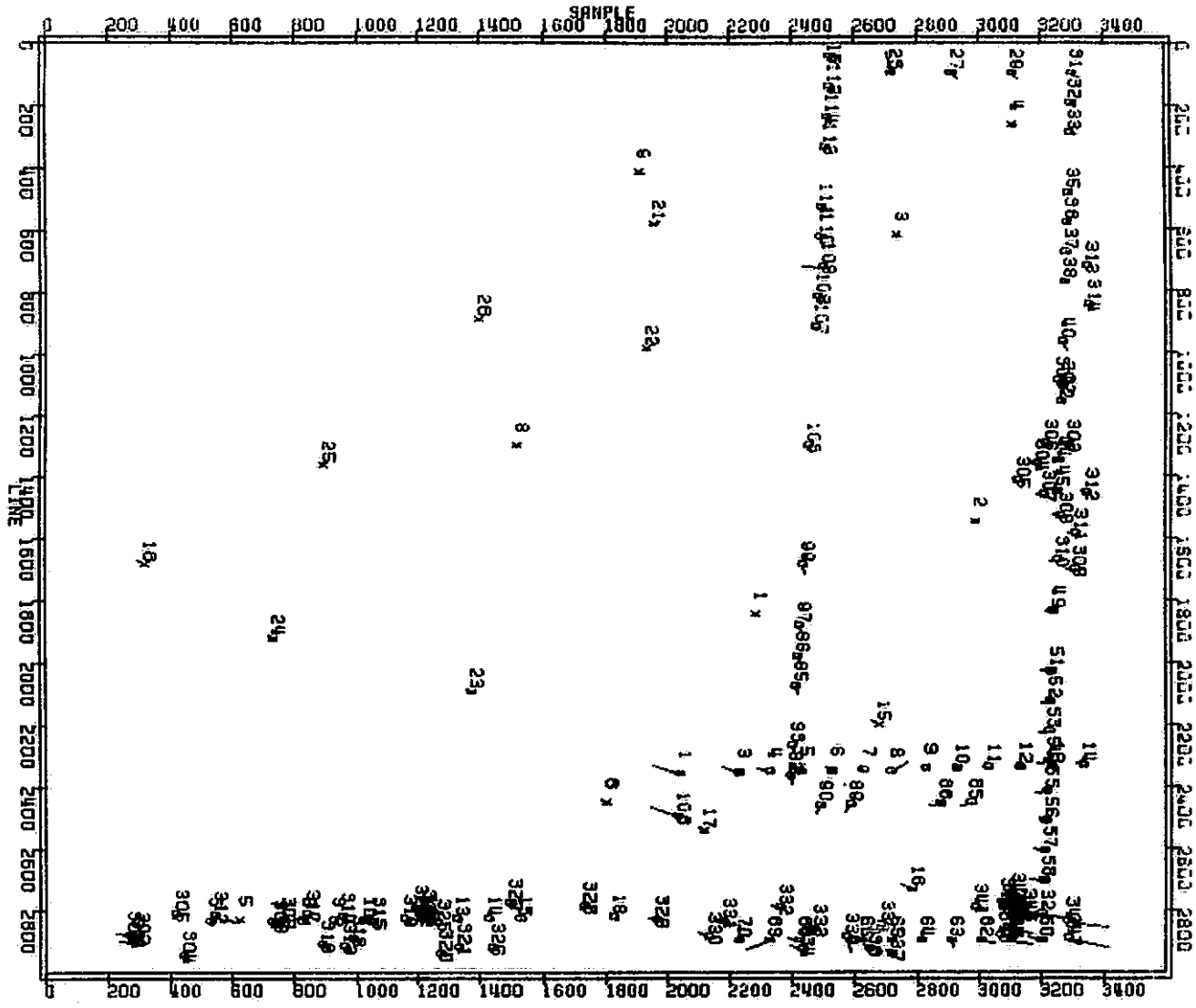
Distribution of tiepoints used for
Frame 5 Williamsport 30478-15123
UTM Zone 17

Figure 37



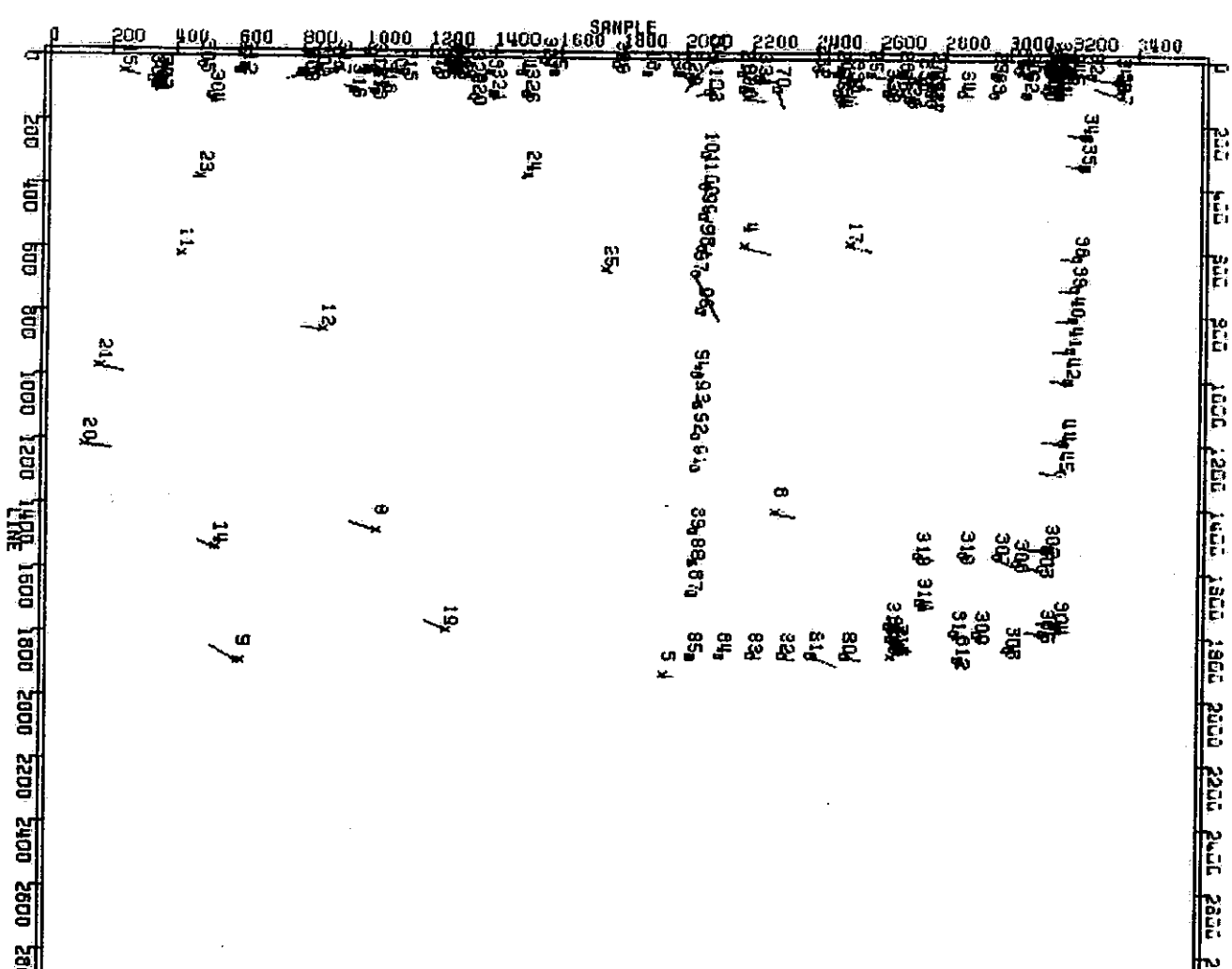
**Distribution of tiepoints used for
Frame 6 Harrisburg 30208-15141
UTM Zone 17**

Figure 38



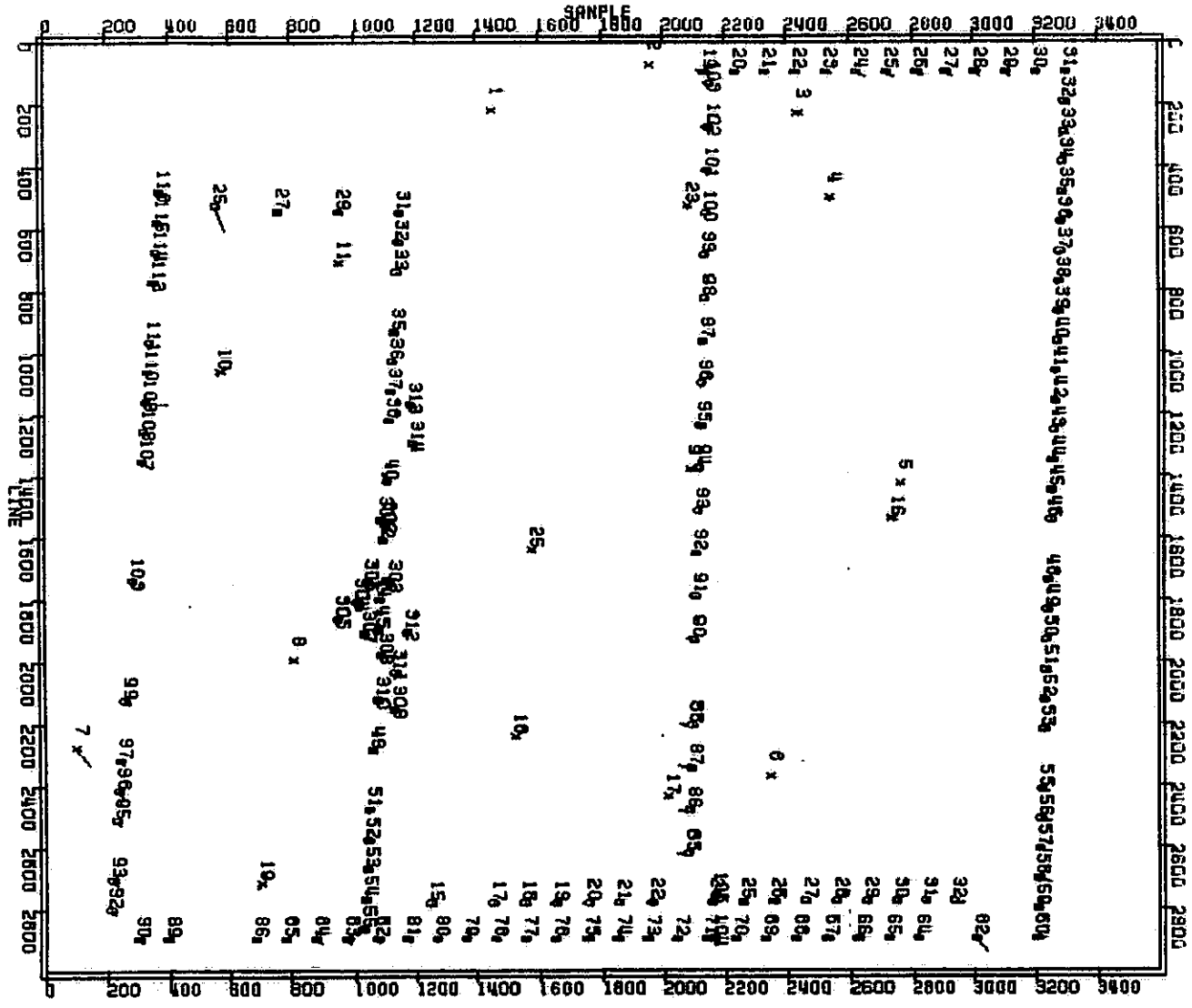
Distribution of tiepoints used for
Frame 5 Williamsport 30478-15123
UTM Zone 18

Figure 39



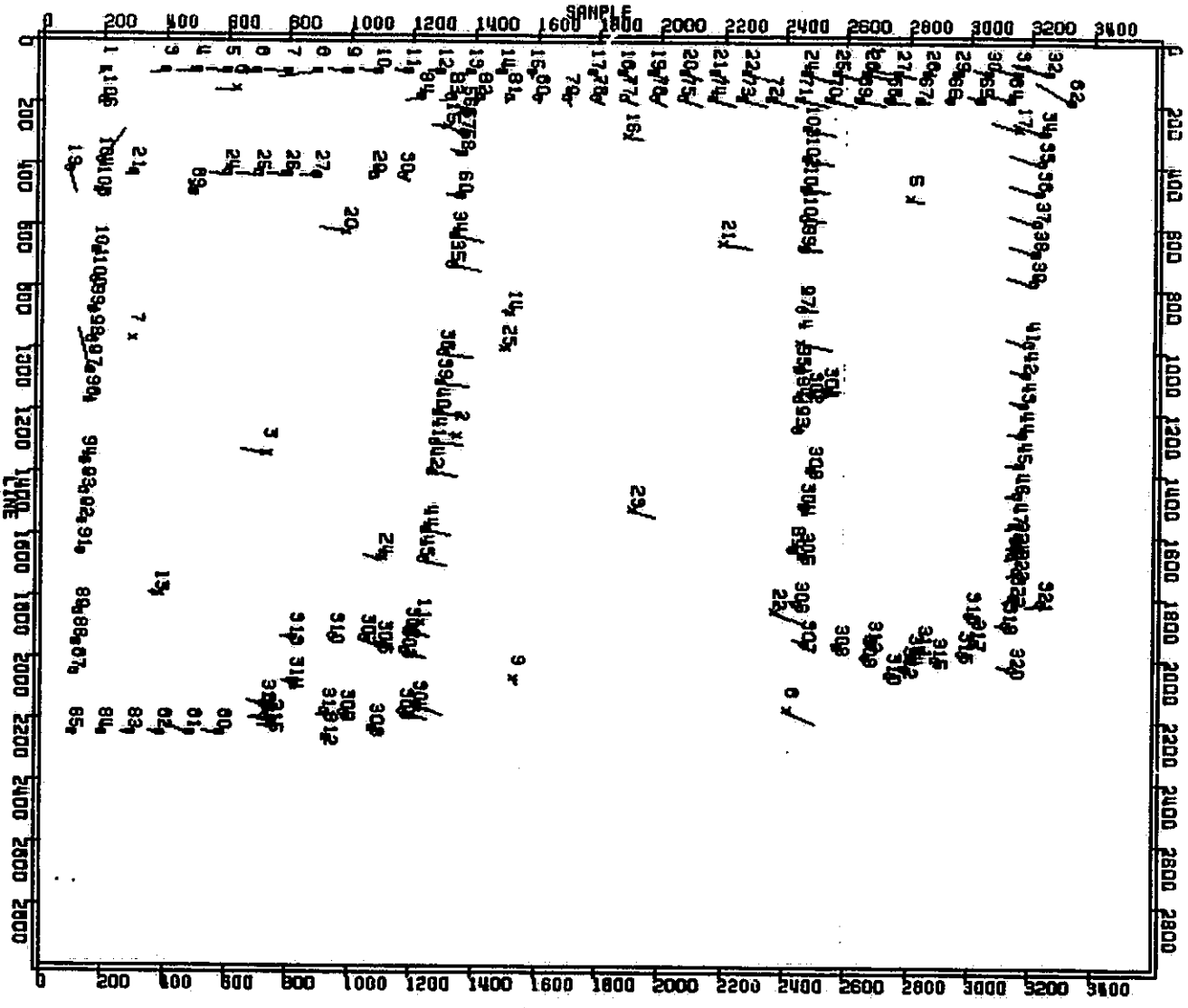
Distribution of tiepoints used for
Frame 6 Harrisburg 30208-15141
UTM Zone 18

Figure 40



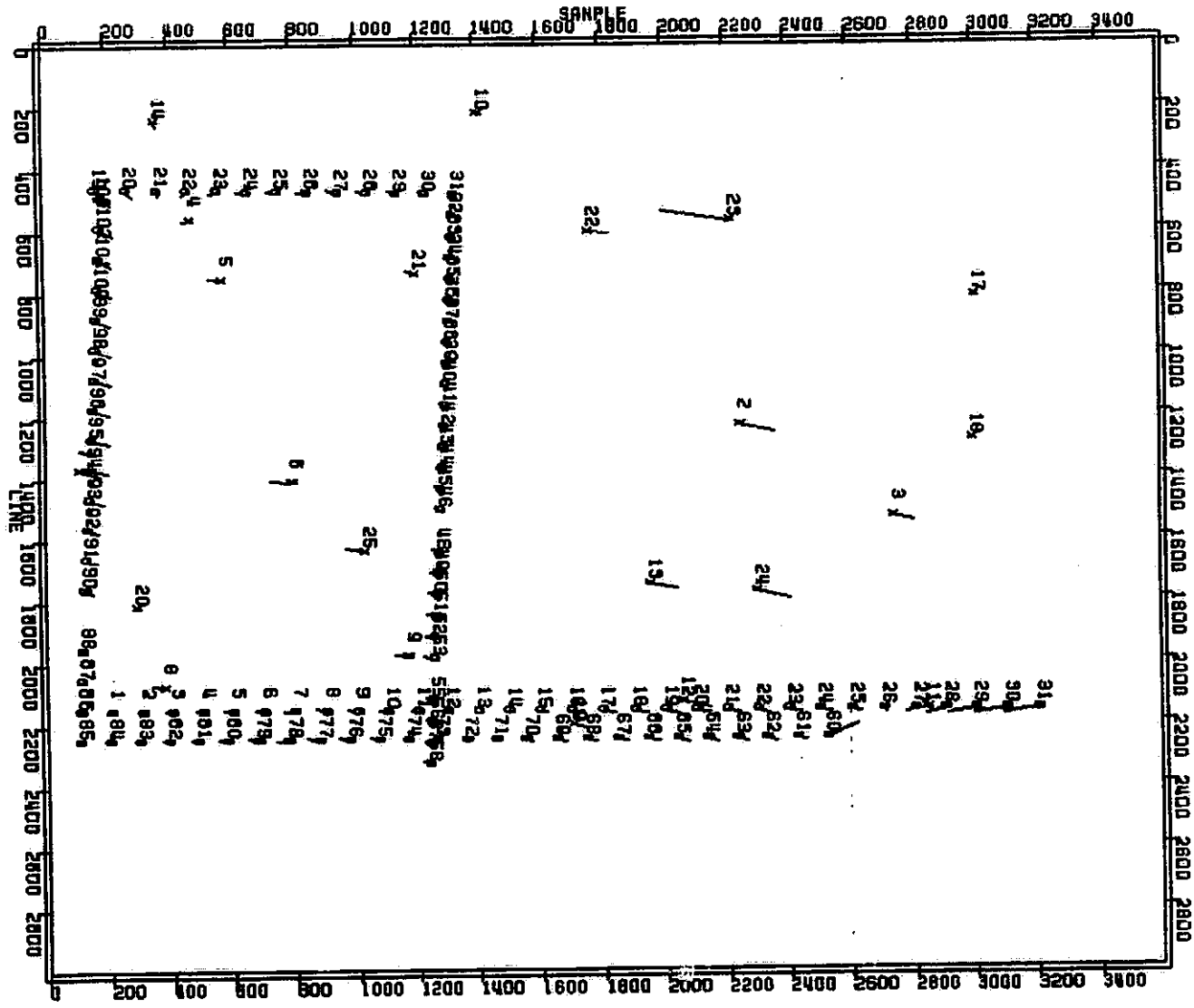
Distribution of tiepoints used for
Frame 7 Scranton 21660-15005
UTM Zone 18

Figure 41



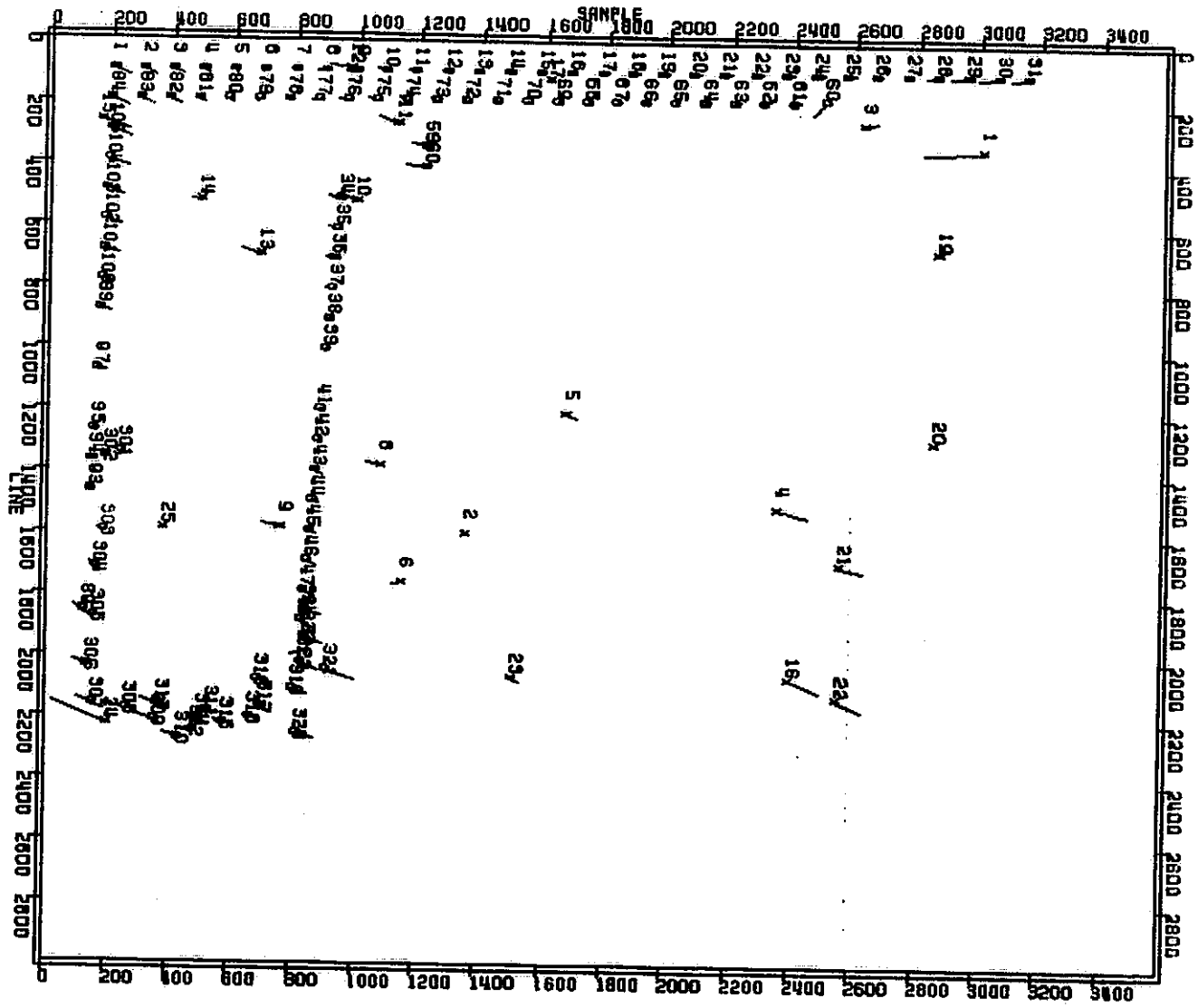
Distribution of tiepoints used for
Frame 8 Lebanon 2544-15001
UTM Zone 18

Figure 42



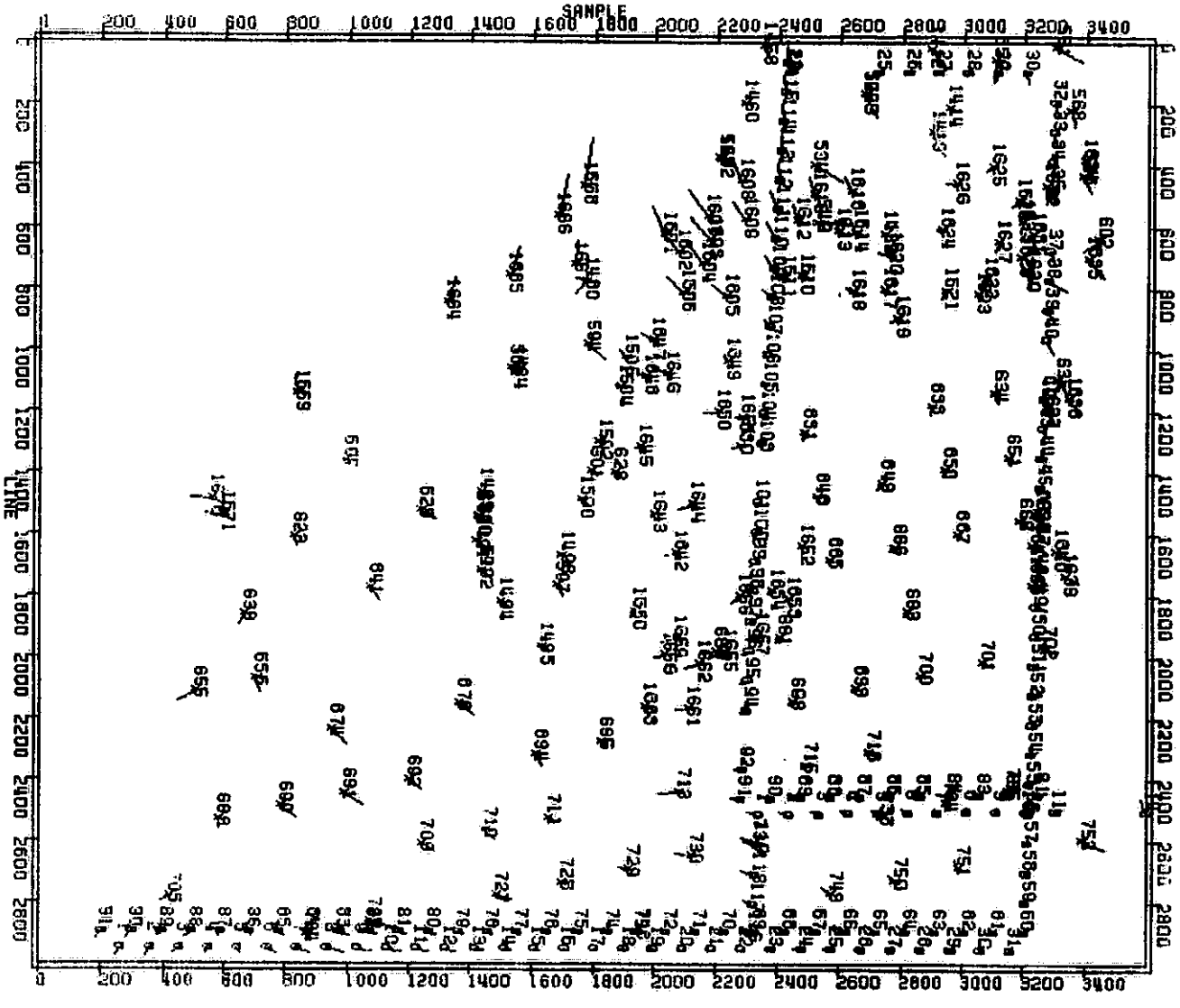
Distribution of tiepoints used for
Frame 9 Poughkeepsie 30170-15020
UTM Zone 18

Figure 43



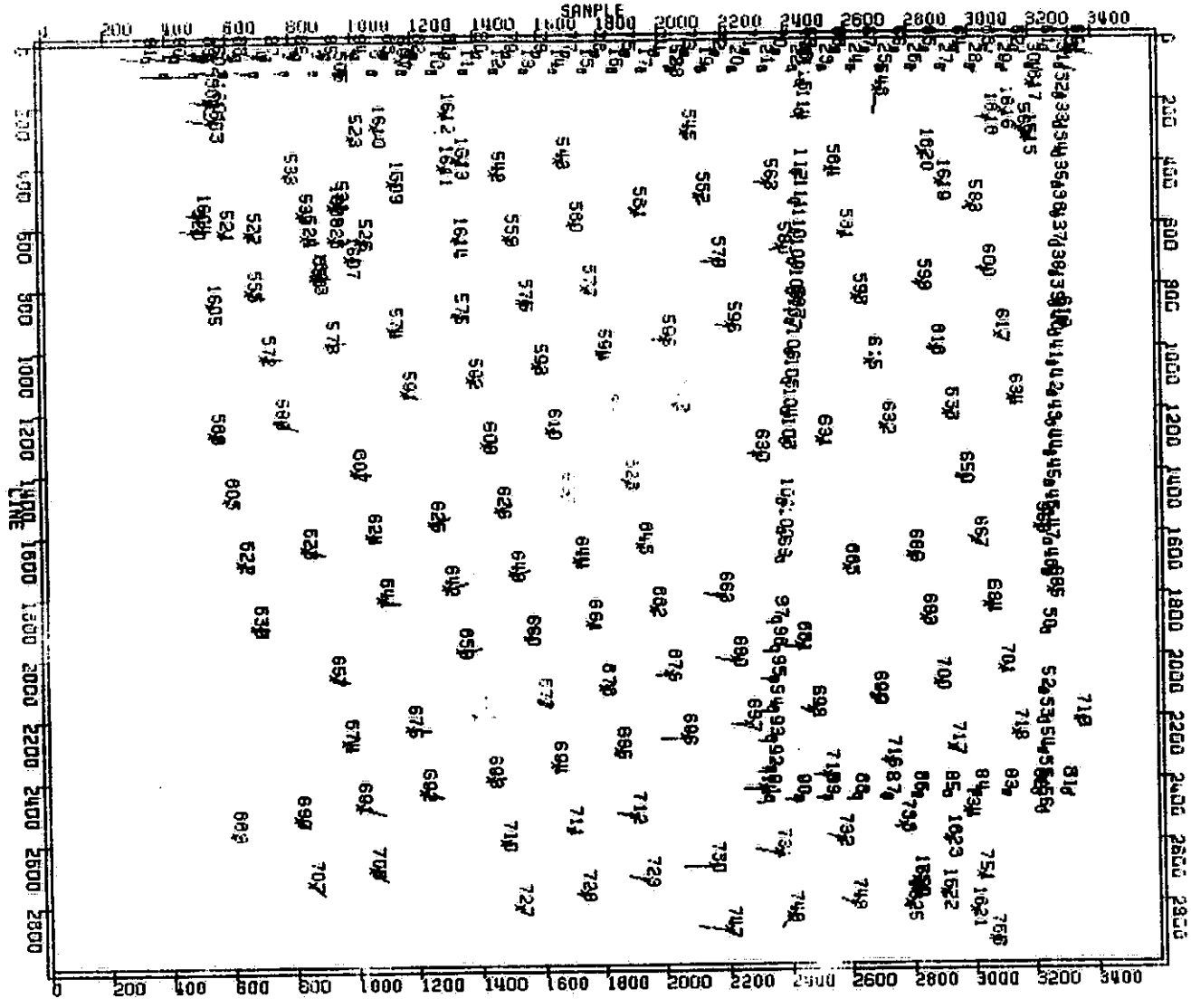
Distribution of tiepoints used for
Frame 10 Trenton 30098-15013
UTM Zone 18

Figure 44



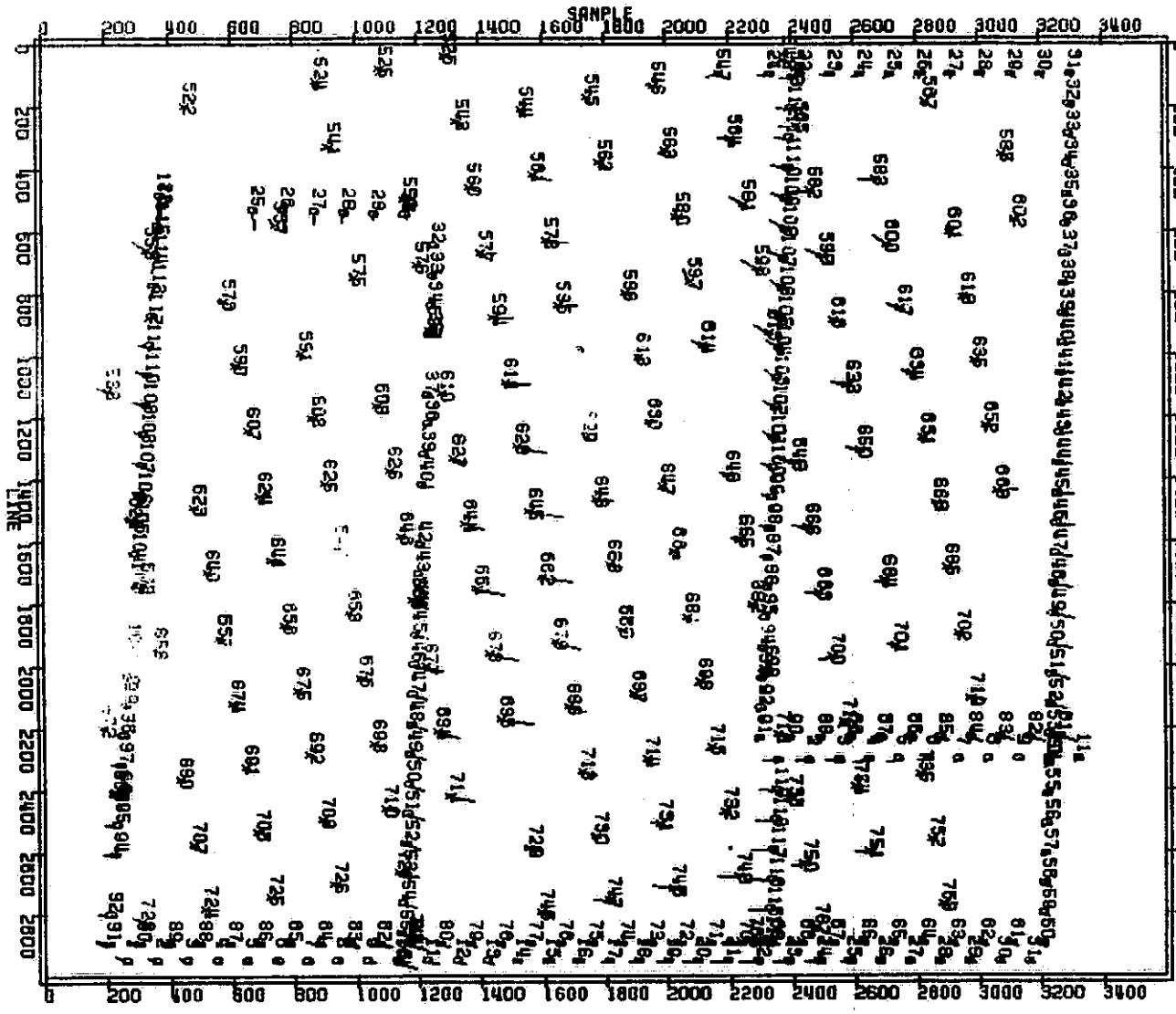
Distribution of tiepoints used for
Frame 11 Titusville 22311-15214
UTM Zone 17 Second Date 1981

Figure 45



Distribution of tiepoints used for
Frame 12 Steubenville 22311-15220
UTM Zone 17 Second Date 1981

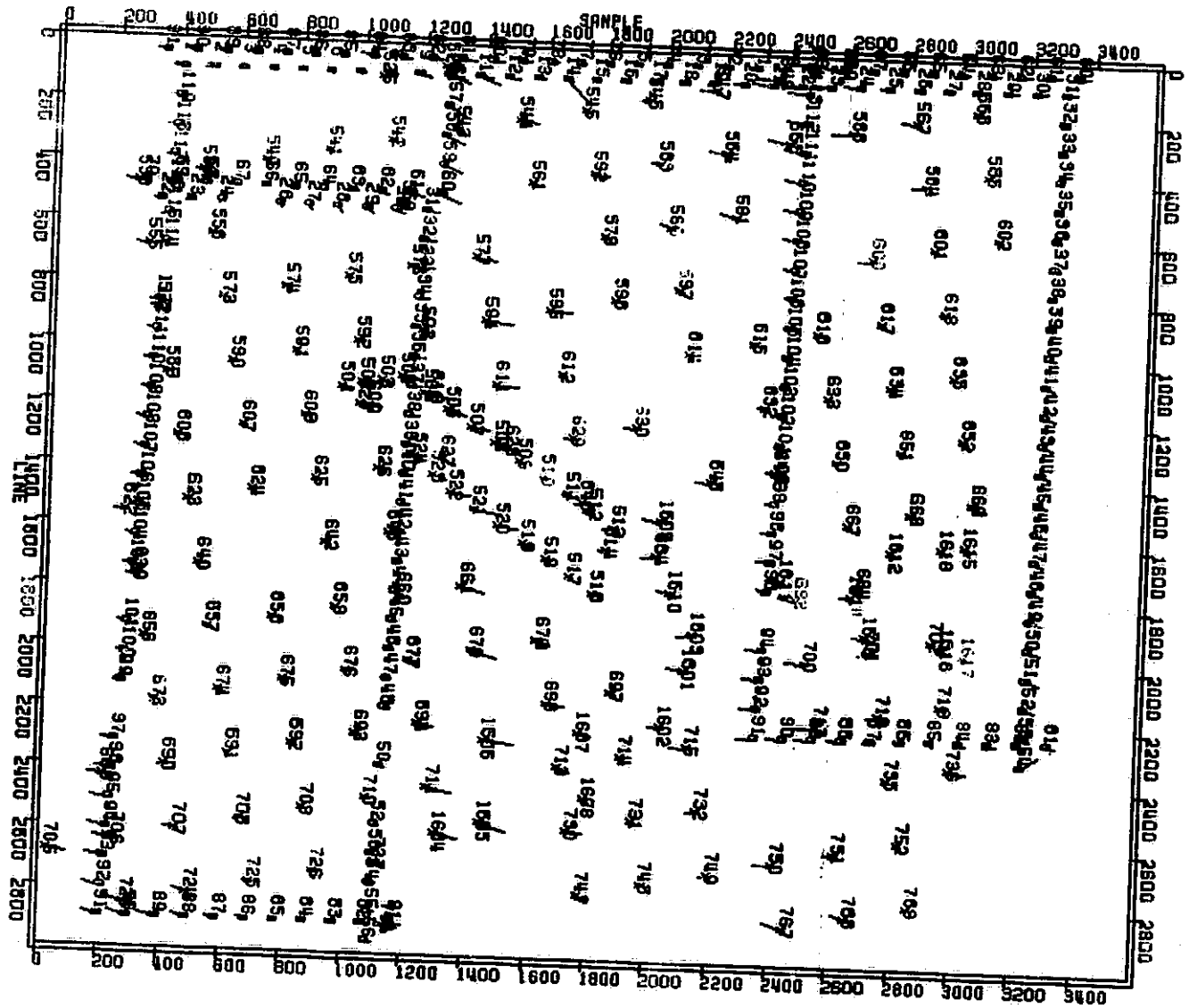
Figure 46



FRAME 13 SCALE 10.0

Distribution of tiepoints used for
Frame 13 Warren 22400-15142
UTM Zone 17 Second Date 1981

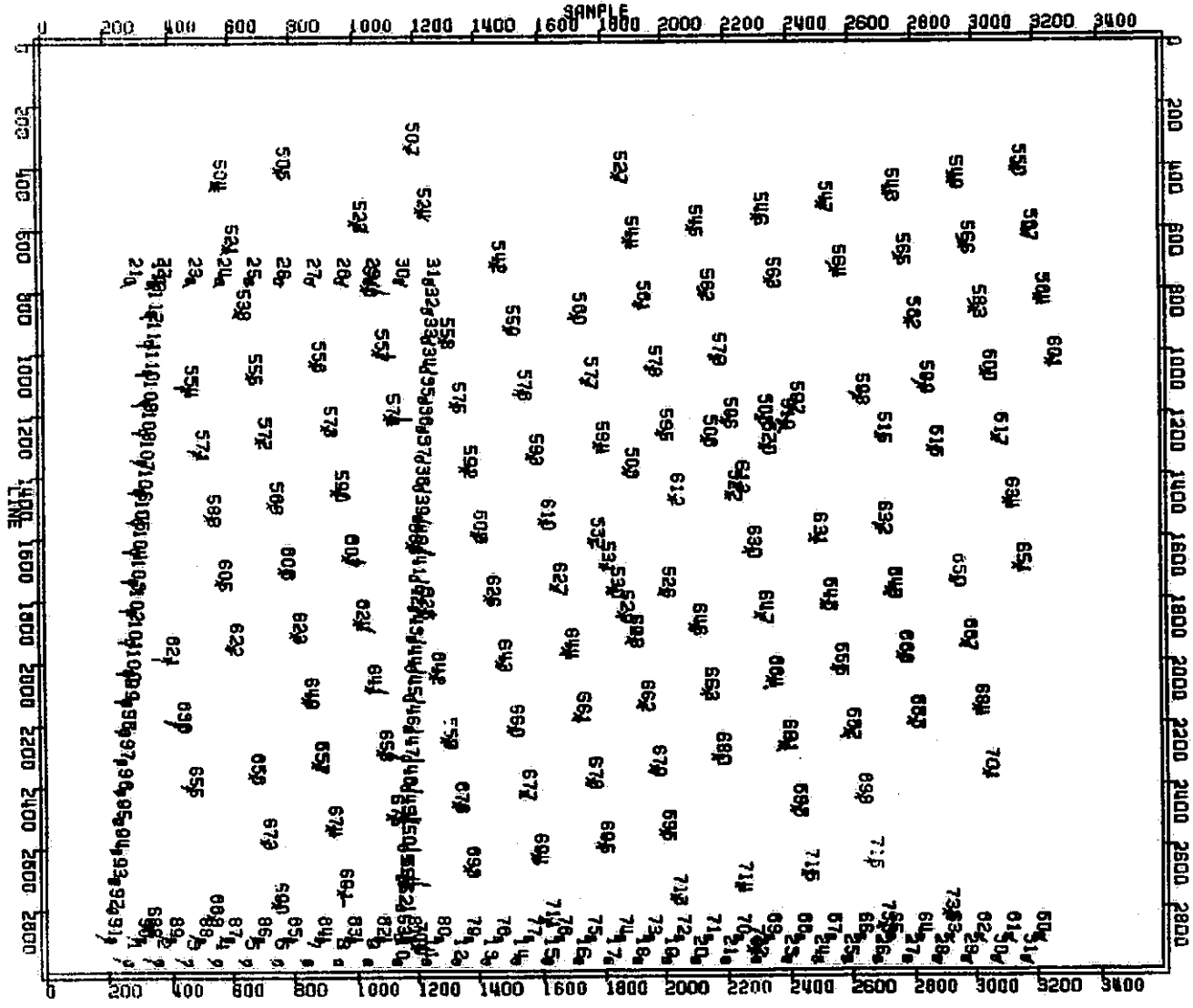
Figure 47



FRAME 14 SCALE 10.0

Distribution of tiepoints used for
Frame 14 Pittsburgh 22400-15144
UTM Zone 17 Second Date 1981

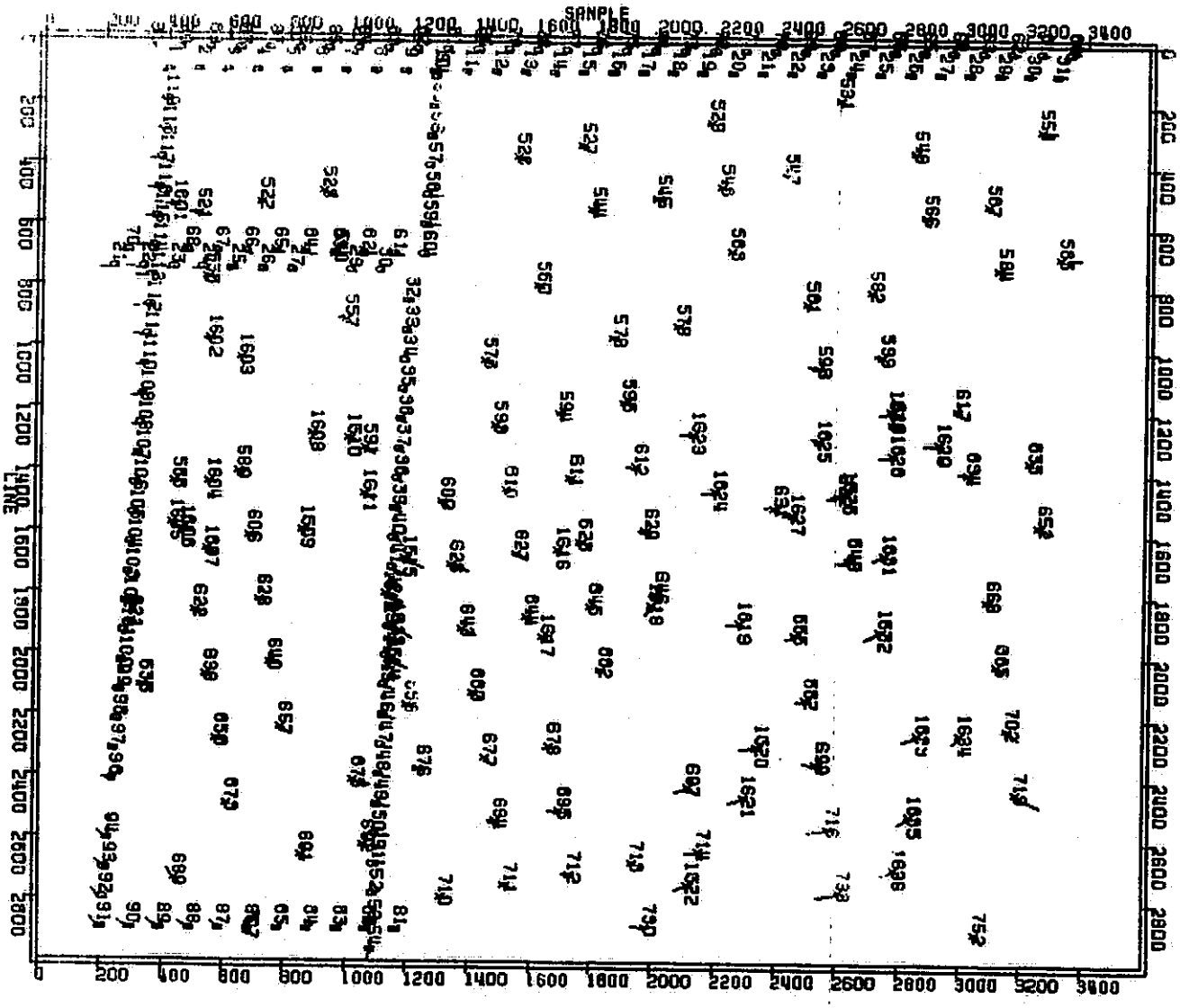
Figure 48



FRAME 15 SCALE 10.0

Distribution of tiepoints used for
Frame 15 Williamsport 22381-15084
UTM Zone 17 Second Date 1981

Figure 49



Distribution of tiepoints used for
Frame 16 Harrisburg 22381-15090
UTM Zone 17 Second Date 1981

Figure 50

Once the editing has been completed, the entire process is reviewed to insure that nothing has been overlooked. Upon final approval, the next procedure is initiated.

6.3.5 MOS35

The purpose of the MOS35 procedure is to obtain the brightness values for each tiepoint location for all bands of the data sets. This information is necessary in order to smooth brightness differences between scenes.

For each tiepoint which remains after editing, the line/sample position is obtained from the 'From' columns as seen in the MOS34 listing (Tables 6, 7, 8). That point in the raw Landsat image is addressed and a 12 x 12 pixel average brightness is calculated for the point and stored back in the file. Each subsequent point for the scenes is calculated and stored accordingly.

After all points are processed for one band, each successive band is processed until all information is gathered. Once this step is completed, processing can proceed to geometric and radiometric correction.

6.3.6 MOS36

The MOS36 procedure is used to geometrically and radiometrically correct each frame based upon the information in the selected tiepoints. The output is a tape file of the image adjusted to the proper pixel size, rotated north, and trimmed around the perimeter file. These corrected data sets are used as input for mosaicking.

6.3.6.1 Algorithm Theory

The geometric correction consists of two steps. First, a surface fit to the control points is performed and the transformation is evaluated at a uniform grid. Second, the uniform grid is used in an efficient process to transform the image geometrically. For purposes of efficiency, the brightness

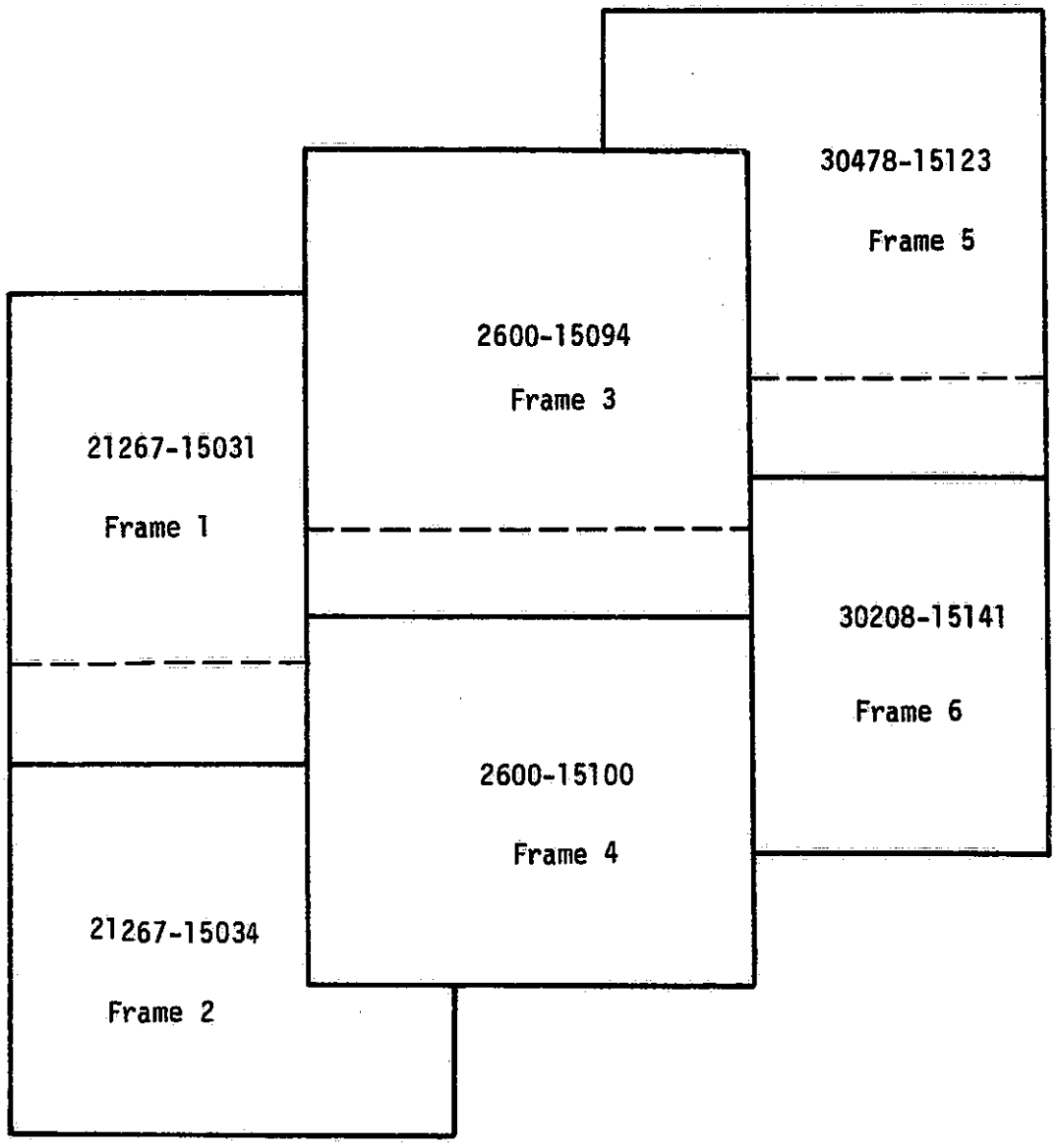
corrections are also calculated to this grid and are applied to the image in the same computation. Within each grid cell, bilinear interpolation is used to determine the amount of geometric shift for a pixel and the amount of brightness correction. The interpolation for a pixel value is also bilinear. The routine, MZGEOM, uses an advanced technique for staging image data from disk storage to memory so that rotation of large data sets can be performed in a rapid manner.

6.4 Mosaicking

Once all frames are corrected for at least one band, a mosaic is constructed. This process is a fairly simple computation but requires large amounts of machine resources to complete. Large mosaic jobs are generally run during off-peak hours. Two tape drives are used at most, so large amounts of disk space have to be reserved. This project required six data sets, 3600 records by 3800 bytes per record, plus an output data set allocated 6500 lines by 8500 samples. The output data set has to be disk since the IPL installation limits the 9-track tape density to 629 bits/cm (1600 bits/in.), and 732 m (2400 ft) of tape at this density are insufficient to store such a large image.

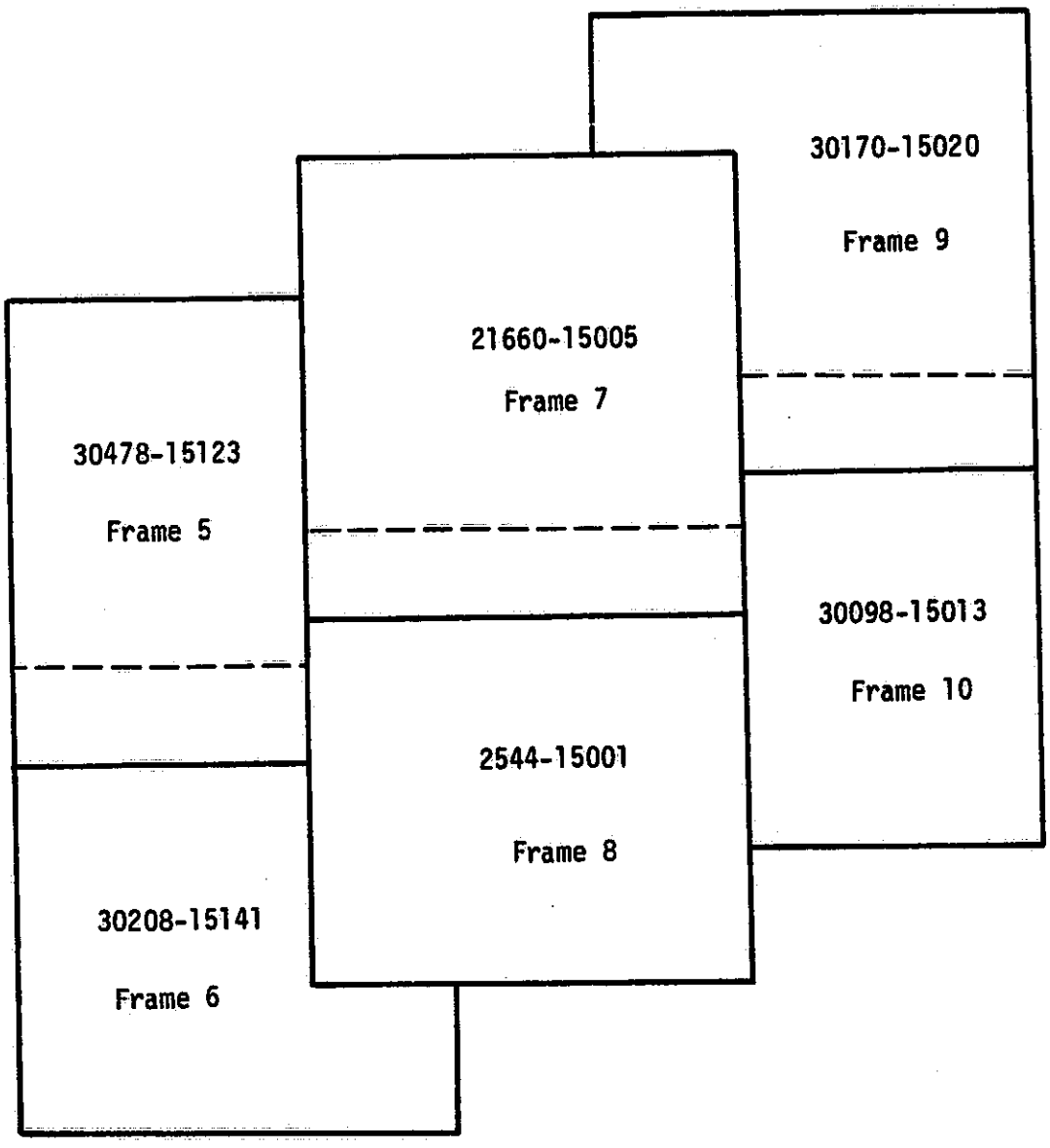
After all data sets are read into a disk file, they are submitted to the mosaicking algorithm that actually does the stitching together. The order of precedence is selectable as is the output frame size. The offsets are specified as parameters to the program and are derived from the MOS34 listing (Tables 6, 7, 8). Since the origin of the output grid is far removed from the actual mosaic, an additional offset, the Master Offset, is subtracted. The order of precedence is determined by the order in which the input data sets are specified. The first data set specified has top priority while the second data set specified has next priority and so on. The mosaicking arrangements used in each mosaic are shown in Figures 51, 52, and 53.

The output data are initially stored on disk and operated on later to extract the individual quadrangles. After the quadrangles are extracted the data set is backed-up with a utility program and is stored on two tape volumes. Access to the entire mosaic at a later date simply requires that two tapes restore the required files.



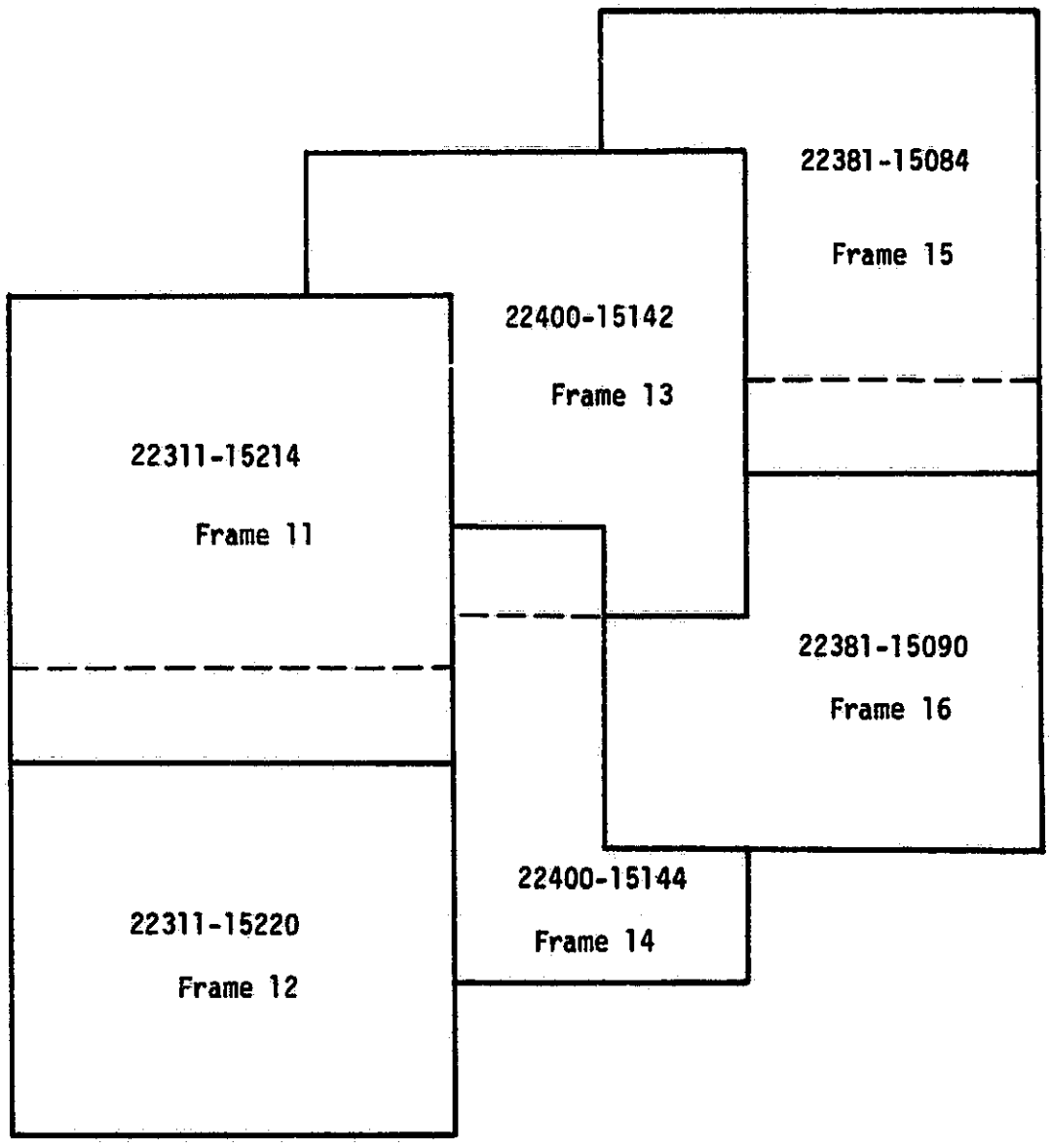
Mosaicking Arrangement UTM Zone 17. This figure depicts the order of precedence in which the individual Landsat scenes are inserted into the mosaic image space.

Figure 51



Mosaicking Arrangement UTM Zone 18. This figure depicts the order of precedence in which the individual Landsat scenes are inserted into the mosaic image space.

Figure 52



Mosaicking Arrangement UTM Zone 17, Second Date: 1981. This figure depicts the order of precedence in which the individual Landsat scenes are inserted into the mosaic space.

Figure 53

6.5 Accuracy

The accuracy of Landsat digital mosaics has been evaluated to some degree by several sources, including Goddard and Purdue University (7). Edge-to-edge mismatching is the most visible error in mosaics. Edge errors tend to encourage scrutiny and degrade the aesthetic and planimetric qualities of the final product.

6.5.1 Local: Scene to Scene

Overall, scene-to-scene mismatch in the Pennsylvania mosaic is minimal. What does exist is difficult to assess primarily because imagery of different dates was used to produce the mosaic. Those few areas that did exhibit some degree of mismatch were on the order of one to three pixels, but only for very short stretches (100 pixels). In addition, mismatched areas generally fell outside the Pennsylvania state border and did not adversely impact the project.

6.5.2 Planimetric Accuracy

From a cartographic viewpoint, the evaluation of map accuracy is a difficult procedure. Accuracy is interpreted from map specifications and standards, but several interpretations of the standards are possible depending upon the method used. The gray areas of interpretation must be acknowledged so that the relatively narrow standards are not applied inappropriately, in that they neglect the intent or spirit of the specifications.

For continuity, the United States National Map Accuracy Standards (NMAS) were applied in a limited way to evaluate the planimetric qualities of the mosaic. These standards are:

> "For maps of the scale of 1:20,000 and smaller, not more than 10 percent of the points tested shall be in error greater than 1/50 inch. These limits of accuracy shall apply in all cases to positions of well-defined points only. Well-defined points are those that are easily visible such as the following: monuments or markers, such as bench marks, property boundary monuments; intersections of roads, railroads, etc; features not

identifiable on the ground within close limits are not to be considered as test points within the limits quoted, even though their positions may be scaled closely upon the map. In this class would come timber lines, soil boundaries, vegetation associations, etc."

The root mean square error (RMSE) for identifiable points in a series of 7-1/2 minute quadrangles was calculated. Verification points were located in 19 quads within a 1^{o} x 2^{o} quadrangle in the state. There are over 800 7-1/2 minute quads in Pennsylvania, making it expensive to sample each one. For several of these quadrangles, the actual GCPs were examined and found to be excellent per specifications for the CPLBS. Line/sample values for a given point in the mosaic were located 'after the fact' on an interactive display unit with a trackball cursor and then recorded. The calculated position of that point per the UTM mapping projection grid was compared against the located point and the deltas (X,Y) noted. The RMSE was calculated by the following formulae for all points checked:

$$RMS_{LINE(Y)} = \sqrt{\frac{Y_i^2}{n}} \; ; \qquad (1)$$

$$RMS_{SAMPLE(X)} = \sqrt{\frac{X_i^2}{n}} \; ; \qquad (2)$$

$$D = \sqrt{RMS_Y^2 + RMX_X^2} \; . \qquad (3)$$

Results of these calculations are given in Table 9.

TABLE 9

ROOT MEAN SQUARE ERROR (RMSE)	PIXELS	METERS
Delta Line	1.13	64.41
Delta Sample	3.49	198.93
Delta D	3.67	209.19

A total of nineteen points were used in the verification, one point for each 7-1/2 minute quadrangle. The distribution for these points was narrow: all fell within a 1^{o} x 2^{o} quadrangle. While in the process of the initial verification, it was noted that certain areas of the mosaic had geometric stability problems, while others did not. Our efforts were concentrated on the problem areas.

The acceptable error for maps of the 1:250,000 scale class is 127 meters in the X and Y directions. While the line errors are well within this limit, the sample errors and derived D values are not. Those particular errors have been attributed to the Mirror Scan Velocity Profile (MSVP) of the multispectral scanner. Formulas used in the nominal corrections of the data were obtained from the published public record. The formulas are determined by instrument bench tests during system preflight checks. It is possible that if fatigue and wear in the scanner system caused the MSVP to change, then the correcting formula would change similarly. The MSVP can be compensated for during the mosaicking process but it requires an extremely dense network of GCPs, especially within the peaks and troughs of the profile. Contributing factors that inhibit proper correction are the inability to obtain sufficient correlation of GCPs because of changes in land cover, lack of actual identifiable features, and atmospheric conditions.

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1. Hoy, M. A., "The Gypsy Moth - Here Again," California Agriculture, July 1982, p. 4-6.

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